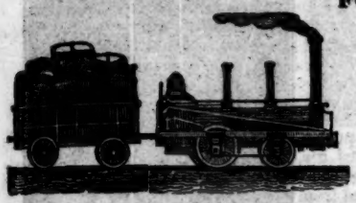
Engineer's Office

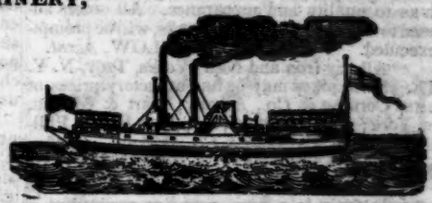
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



ESTABLISHED 1831.



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THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

RATES OF ADVERTISING.

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One page, single insertion	8 00
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ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia. Pa.
KITE'S Patent Safety Beam. (*See Adv.*)
FRENCH & BAIRD, Philadelphia, Pa. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
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A. & G. RALSTON & Co., Philadelphia, Penn. (*See Adv.*)
THOMAS & EDMUND GEORGE, Philadelphia. (*See Adv.*)

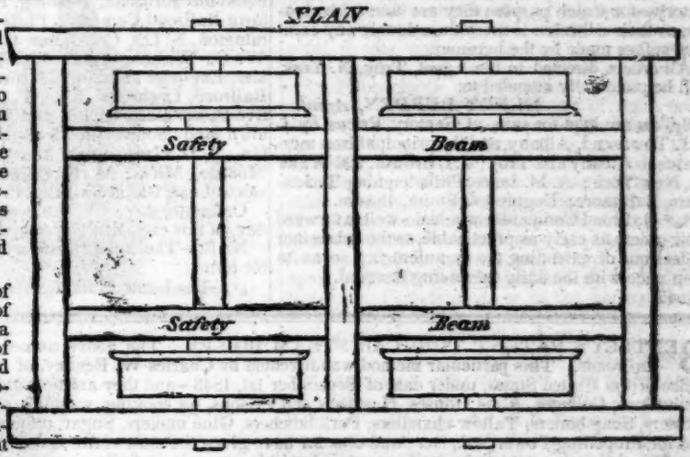
W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make surveys estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description, with plans and specifications. He will also act as agent for the sale or purchase of machinery, and of patent rights for improvements relating to public works.

KITE'S PATENT SAFETY BEAM.

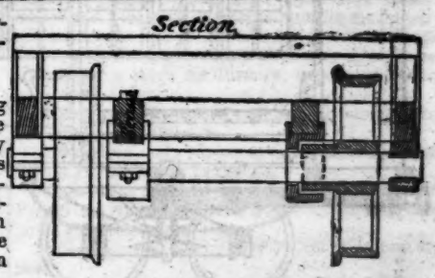
MESSRS. EDITORS.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.



☞ The undersigned takes pleasure in attesting o the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.



In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent,
GEORGE CRAIG, Superintendant,
JAMES ELLIOTT, Sup. Motive Power,
W. L. ASHMEAD, Agent.

☞ A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

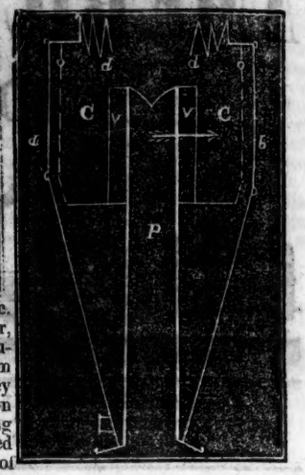
HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, or to Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

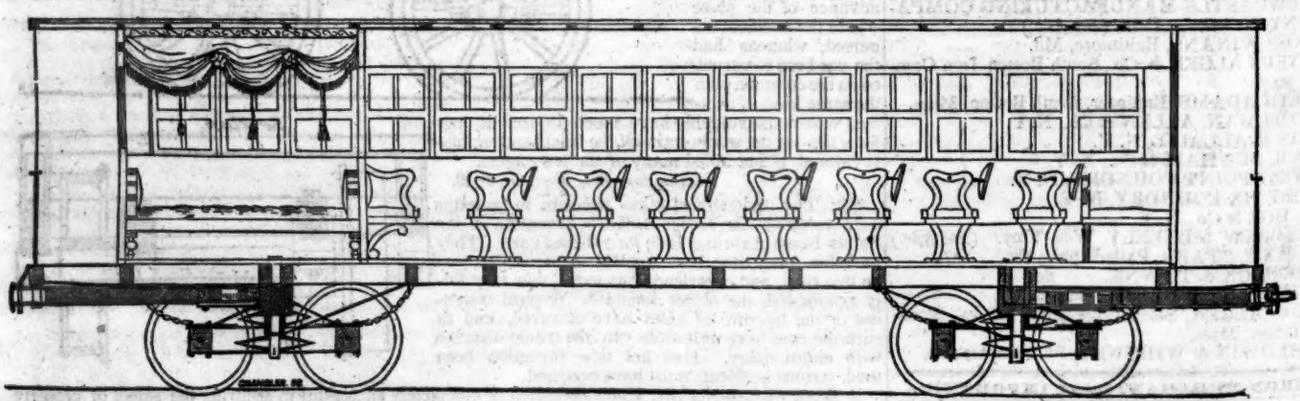
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

BENTLEY'S PATENT TUBULAR STEAM BOILER. The above named Boiler is similar in principle to the Locomotive boilers in use on our Railroads. This particular method was invented by Charles W. Bentley, of Baltimore, Md., who has obtained a patent for the same from the Patent Office of the United States, under date of September 1st, 1843—and they are now already in successful operation in several of our larger Hotels and Public Institutions, Colleges, Alms Houses, Hospitals and Prisons, for cooking, washing, etc.; for Bath houses, Hatters, Silk, Cotton and Woollen Dyers, Morocco dressers, Soap boilers, Tallow chandlers, Pork butchers, Glue makers, Sugar refiners, Farmers, Distillers, Cotton and Woollen mills, Warming Buildings, and for Propelling Power, etc., etc.; and thus far have given the most entire satisfaction, may be had of D. K. MINOR, 23 Chambers st. New York.

The article is complete in itself, occupies but little space, is perfectly portable, and requires no brick work, not even to stand upon. It is valuable, not only in the saving of time and labor, but in the economy of fuel, as it has been ascertained by accurate measurement, that the saving in that article is fully two-thirds over other methods heretofore in use. They are now for the first time introduced into New York and Boston by the subscriber, who has the exclusive right for the New England states, New York and New Jersey, and are manufactured by CURTIS & RANDALL, Boston; and by FORCE, GREEN & CO. New York.

DAVENPORT & BRIDGES' PATENT CAR AND TRUCK.



DAVENPORT & BRIDGES CONTINUE TO MANUFACTURE TO ORDER, AT THEIR WORKS, IN CAMBRIDGEPORT, MASS. Passenger and Freight Cars of every description, and of the most improved pattern. They lso furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All order punctually executed and forwarded to any part of the country

Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
ja45 President of the Newcastle Manuf. Co.

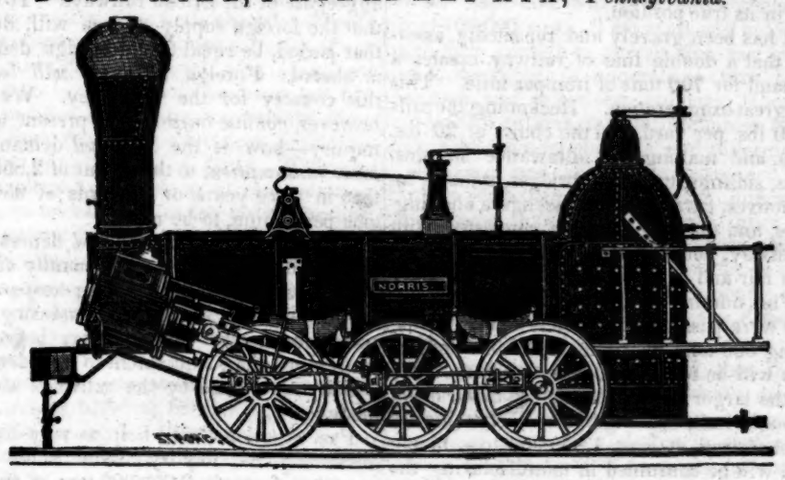
CUSHMAN'S COMPOUND IRON RAILS. etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc. —respectfully offers to dispose of Company, State Rights, etc., under the privileges of *letters patent* to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of *improving* their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

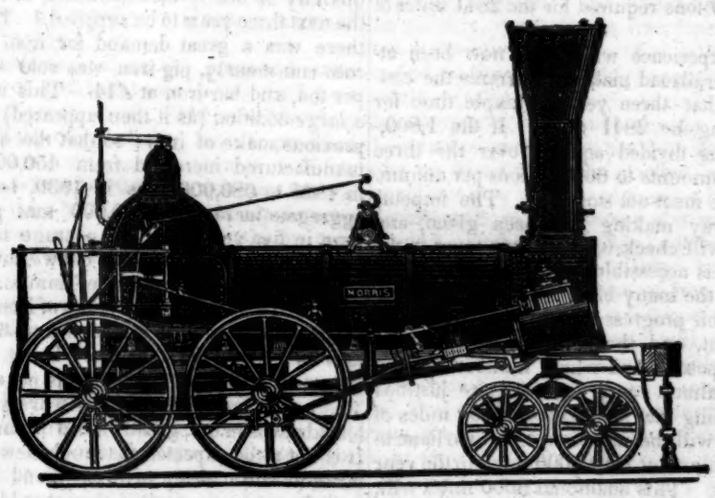
W. Mc. C. CUSHMAN, *Civil Engineer*,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applicaitons must be post paid.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.
WILLIAM YOUNG,
jy451m President.

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Bituminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lyoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years the coal will not cost more than $1 to $1.25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, *Civil Engineer*,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x46½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

CYRUS ALGER & CO., South Boston Iron Company.

The Iron Manufacture.

We referred in our last, to an article in the Mining Journal of the 30th August, on the probable demand for, and supply of iron during the ensuing five years. The writer evidently understands the subject; and has, in our view, rather underrated the demand for railroads, than otherwise; as we are fully of the opinion—now frequently expressed by intelligent English gentlemen—that the system will be pushed "until every town in England has its railway." That parliament will grant many new charters for railroads, not only during the ensuing, and the following, but also at many subsequent sessions, no one need doubt; as, while railroads tend so directly to develope the resources of the country, and especially its *distant* sections; and at the same time, pay 4½ per cent. with a prospective increase, there will be men and capital to build them, not only in Europe but also in this country—therefore an increased consumption of iron may be looked for, and a *large* one too, certainly during the next *ten*, aye, *more* than that number of years.

We wish we could place a number of the Railroad Journal, containing this article, in the hands of every business man in this community, and especially in the hands of those who have the means, but lack the courage, to engage in the manufacture of iron for our own supply.

The writer says, "should the atmospheric principle be adopted on some of the lines—which is highly probable—the requisite quantity of iron in these cases, will be increased about 50 per cent. per mile." We also think it almost certain that the atmospheric principle will be adopted on many lines; and of course that the quantity of iron will be thus materially increased in the first instance, though a less quantity will be required to keep them up, as a renewal of locomotives, and of rails from wear and tear by the locomotive, will be avoided.

The writer remarks, that "some of your readers may be surprised to learn that it will require, to make the *increased* quantity 1,233,000 tons for the year 1848—20,000 *tons of coal, and* 13,000 *tons of iron ore per day*, and the labor of about 100,000 *men*," He also states that 244 new furnaces, costing £20,000 each, or £4,880,000, will be required, and says that two years will be quite little time enough to get them into operation.—We think so too, and much doubt the completion of so much *in that time*, though all that he has pointed out, and much more, will be accomplished at an early day.

The closing remarks, in relation to the suspension of the works on account of the high price of iron, we think very just; those interested will be much more likely to push on, even at a probable loss, than to suspend and thus depreciate the value of their shares and incur certain loss—and then it affords such an excellent apology for exceeding original estimates.

Numerous letters and paragraphs have recently appeared in the *Mining Journal* on the above important subject. I have been surprised at some erroneous and contradictory assertions, and no less so at some unwarrantable inferences drawn from correct statements.

Being an old subscriber to your Journal, I take the liberty of troubling you with a few plain facts, and with some simple observations, which will, I think, place the subject in its true position.

It has been gravely and repeatedly asserted, that a double line of railway creates a demand for 700 tons of iron per mile. This is a great exaggeration. Reckoning the rails at 70 lbs. per yard, and the chairs at 20 lbs. each, and making full allowance for pins, bolts, sidlings, turn-outs, bridges, stations, locomotives, carriages for passengers and luggage, and the long *et cetera* connected with a railway, you will find 500 tons per mile to be a fair and sufficient estimate.

The number of miles for which railway acts were passed last session is 2841. Reckoning 500 tons per mile, 1,420,500 tons of iron will be required to complete them. By far the larger portion of this quantity being wrought-iron, and a great deal of it highly finished iron, at least 1,800,000 tons of pig iron will be consumed in manufacturing the 1,420,500 tons required for the 2841 miles of railway.

The experience which has now been attained in railroad making, warrants the conclusion, that three years is ample time for completing the 2841 miles. If the 1,800,000 tons is divided equally over the three years, it amounts to 600,000 tons per annum.

But we must not stop here. The impetus for railway making has been given, and nothing will check it until every town in the kingdom is accessible by a railway. Judging from the many bills which were impeded in their progress by the prorogation of parliament, and the number of new lines since proposed—and which number is augmenting almost every day—we are justified in supposing that *not less* than 2000 miles of railway will be sanctioned by parliament next year, and *at least* 1000 miles in the year following. This additional 3000 miles will, according to the foregoing estimate, require 1,500,000 tons of finished iron, or 1,900,000 tons of pig iron—that is, 1,266,000 tons for the 2000 miles, and 633,000 tons for the 1000 miles. Allowing three years for completion, one-third of each of these quantities will also be required in each year after the passing of the acts of parliament—consequently, there will be wanted, in the year 1846, 600,000 tons of iron, in respect of the 2841 miles of last session; in the year 1847 there will be wanted 1,022,000 tons—viz., 600,000 tons in respect of the acts of last session, and 422,000 tons in respect of the estimated 2000 miles of next session; and in the year 1848 there will be wanted 1,233,000, tons viz., 600,000 tons the residue for last session, 422,000 tons on account of next session, and 211,000 tons in respect of the estimated 1000 miles of the session of 1847—making a total quantity of 2,855,000 tons in three years.

Should the atmospheric principle be adopted on some of the lines—which is highly probable—the requisite quantity of iron will, in these cases, be increased about 50 per cent. per mile.

It will be observed that the foregoing calculations are confined to the railways of this country. It is not unreasonable to suppose, that as many miles of foreign railway will be undertaken in the next three years as the aggregate of the British railways. To think that the foreign supply of iron will, during that period, be equal to the foreign demand, is absurd. Foreign countries *will look* to this country for the deficiency. We will however, confine ourselves at present to the inquiry—how is the *increased* demand for *home consumption*, to the extent of 2,855,000 tons in three years, or upwards of 950,000 tons per annum, to be met?

I have called it an *increased* demand for 2,855,000 tons; the annual quantity of iron hitherto used for railways being *comparatively* insignificant; so that the increasing consumption for other purposes may be considered more than equivalent to the demand, which was created by the railways already made.

Past experience will help us very little in answering the inquiry,—how is the extra quantity of nearly 3,000,000 tons of iron in the next three years to be supplied? In 1825 there was a great demand for iron, prices rose enormously, pig-iron was sold at £10 per ton, and bar-iron at £14. This induced a *large* addition (as it then appeared) to the previous make of iron; so that the quantity manufactured increased from 450,000 tons in 1825 to 680,000 tons in 1830, being an aggregate increase of 230,000 tons per annum in five years, and an average increase of 46,000 tons per annum; but we now want an additional million tons per annum.

Since 1830 the annual make of iron in this country has gradually extended from 680,000 tons to about 1,400,000 tons; being an aggregate increase of 720,000 tons per annum. The use of hot blast, and the discovery of the blackband iron ore, greatly aided this increase. It is not to be expected that such new auxiliaries to iron making will be found in the next three years; and, if they should, a considerable space of time must elapse before new inventions can be successfully applied and extensively adopted.

The production of iron has not materially varied in the last four years, owing to the prices not being remunerative during great part of that time; the make of 1841 was not much below the present make. We may, therefore, consider the increase of 720,000 tons per annum, as being thrown over a period of eleven years, from 1830 to 1841—be-

ing an average increase of 65,454 tons per annum. But we require an increase of 600,000 tons in the next year; of 1,022,000 in 1847; and of 1,233,000 tons in 1848; being an average increase of 411,000 tons in each succeeding year beyond the make of the preceding year—an *annual progressive increase* nearly equal to the *total make* of the kingdom in 1825; and an aggregate increase in three years quite equal to the total make of the last two years.

Again, we inquire, how is the additional quanlity of nearly 3,000,000 tons of iron to be produced in the next three years?

It has been asserted in the *Mining Journal*, that the furnaces now in blast could produce double the quantity of iron which they now make. Had it been stated, that they cannot produce 5 per cent. beyond their present make, it would not be far from the truth.—The assumption is perfectly absurd. Would an iron-master have built two furnaces, if one would have made as much iron as is now made with two? Would he keep ten furnaces in blast, employing ten sets of founders, fillers, &c., if nine furnaces could produce the same quantity of iron? Would he refuse orders upon orders, at remunerating prices, as he has done in the last six months, if his present furnaces would furnish an additional supply? Certainly not.

The increased demand can be met in no other way than by a vast extension of mining operations, new furnaces, forges, and mills; new tram-roads and railroads for the use of the iron works; new steam engines for pumping, winding, blowing, hammering, and rolling; new carriages for conveying the minerals to the furnaces and the iron to the shipping places. All this must be a work of time, and will require an immense expenditure of money.

In order to produce the presumed extra quantity of 1,233,000 tons in the third year from the present time, 244 new furnaces (with all their appendages), must be provided in the next two years, reckoning each furnace to produce 5000 tons of iron per annum. Not less than 500 tons of iron per furnace will be consumed at the iron works in consequence of the erection of these 244 new furnaces. Thus, more than 120,000 tons of iron in two years, or 60,000 tons per annum, *will be taken away from the present means of supply by the attempt to meet the future demand.*

Five hundred tons per furnace may seem to the inexperienced to be an over-statement; but when the iron master calculates upon the quantity of iron consumed in steam-engines, blast-pipes, furnaces, cast-houses, forges and mills, work shops, tram-roads and railroads above and under ground, carriages for raw materials, and for manufactured goods, and a variety of tools and implements, he knows that the quantity is more likely to be exceeded than otherwise.

Next, as to the probable outlay consequent on these 244 new furnaces. It cannot be reckoned at less than £20,000 per furnace, or £4,880,000. Many an iron master would congratulate himself, if his past outlay were as moderate as our estimate for the future.—Five millions of money is a formidable outlay in two years, for the extension of any one trade. It may appear a small sum to railway companies, whose capital is held in shares of £20 or £50 each. But, to suppose that fifty iron companies, each composed of a few individuals, can or will expend £100,000 each in the next two years, in the extension of existing iron works, or in the erection of new ones, is almost incredible; especially, when it is recollected that, for the three years immediately preceding the present year, most of the iron works were carried on at a positive loss.

Some of your readers may be surprised at the fact, that an increase of 1,233,000 tons of iron in a year, requires the addition of 20,000 *tons of coal*, and 13,000 *tons of iron ore per day*, and will give employment to about 100,000 *men*. Two years will be found quite little enough to provide this vast addition to the supply of minerals, to turn boys into men, and to convert ordinary laborers into skillful colliers, miners, mechanics, founders, fillers, finers, puddlers, and rollermen.

Shall we look abroad for assistance?—Foreign countries will feel the difficulty much *more* than ourselves, and, after all their exertions to satisfy their own wants, they will be obliged to come here for a supply, when time and enterprize, money and men, have enabled us to meet the demand for home consumption.

We have hitherto presumed that there will be something like a systematic apportionment of the orders for railway iron over a period of three years, so that in each succeeding year there will be a progressively increasing demand. But, will it be so? Are the railway companies so free from rivalry and competition, and so cordial in their cooperation, as to agree together to apportion their orders equally over three years? And, if the companies who have already obtained their acts of parliament, could be induced to take so friendly and so prudent a course, would not new railway companies be sure to disturb snch an adjustment of demand and supply? Nothing of the kind will be attempted. Immediately the railway companies are convinced that the price of iron will go higher and higher, until it becomes unprecedentedly high, each company will endeavor to secure its own supply before others, and before iron has reached its maximum price, and thus accelerate, and still further augment, the advance. Symptoms of this movement are already too evident to be mistaken.

It may be said, perhaps, that a great advance in the price of iron will induce the railway companies to slacken their speed, and extend the time for completing their undertakings to five or seven years. It might be so with cautious, calculating, individuals; but it will not be so with public companies, led on by enterprizing engineers. They would rather pay any price for iron, than pay 4 per cent. interest to the shareholders without any actual return for their capital, and thus fearfully depreciate the market value of the shares. The advance in the price of iron will afford an excellent excuse for exceeding the estimated outlay; the powers of borrowing will be exercised; or, if more convenient, additional shares will be created. If iron can be had, no railway will be stopped on account of *price*.

The difficulty of obtaining iron at any price will shortly present a novel feature in the manufacturing and commercial history of this country. I may then take the liberty of again addressing you. A Looker On.

Railways vs. Canals.

We find the following article on this subject, to which we have before referred, in the last number of the London *Railway Express* a new journal recently established. Such is evidently the tendency, and the proprietors show their sagacity by adopting their present course instead of attempting to arrest the progress of railways. *As well might an obstinate individual attempt to turn back a locomotive under full speed as for those interested in canals to attempt to arrest the onward course of railroads.*

A general inclination appears to exist on the part of canal proprietors to convert their canals into railways. The proprietors of the Kennet and Avon canal met at Reading on Tuesday, and agreed to apply to parliament for powers to make their canal into a railway. The Great Western railway company had nearly ruined their carrying trade to and from Hungerford. The canal is 93 miles long, that is 57 cut (from Newbury to Bath,) and 36 of river navigation. The intention is to convert the 57 miles of cutting into a railway; this will give a line between Bath and Newbury, will shorten the distance from Bath and London by the Great Western, and will avoid the Box Tunnel. The Great Western company have got a bill for making a branch from Reading to Newbury and Hungerford, and the canal-railway could make a junction at either place. The expense is stated to be small. The report of Mr. M'Clean, the engineer, who had made the survey, states,—

"That 47 miles of the proposed railway may be constructed on the land belonging to the company, and that deviations from the present line of canal for a total length of 8 miles will be required in improving the curves and shortening the distance, for which land must be purchased or exchanged. The cost of forming the railway will not exceed an average of £8000 per mile, or for the whole distance, say 55 miles, including stations, £600,000. The gradients will be such as to afford the greatest economy in working the line, by being concentrated in one incline of one in 53 for about two and a quarter miles in length. The distance from London to Bath will be three miles and a half shorter than by the present line, and no tunnel will be required."

It was agreed that an increased capital of £800,000 be raised by the creation of new shares of £15 each, and that each proprietor of Kennet and Avon shares be offered two new shares in addition to each one present share; that interest at the rate of £4 per cent. per annum be paid on deposits and calls on new shares, and that a dividend at the rate of 7s. 6d. per share per annum be paid to the holders until a dividend on the railway shall be declared.

ENGLISH RAILROAD SHARE-LIST.

NAME OF RAILWAY.	Miles opened.	Total sums, in pounds, authorized to be raised by shares.	Total sums, in pounds, authorized to be raised by loan or mortgage.	Total sums, in pounds, expended at dates of latest balance sheets.	Cost of working, in pounds, for six months as stated in latest balance sheets.	Total earnings, in pounds, for six months as stated in latest balance sheets.	Dividend at last meeting. Per share. £ s. d.	Per cent. per annum. £ s. d.	Paid on share.	Value of share.
Arboath and Forfar	15	102,000	35,000	138,870	.....	.....	0 12 6	2 10 0	25	20
Birmingham and Gloucester	55	1,187,500	407,336	1,500,806	39,261	53,203	1 5 0	2 10 0	100	100
Brandling Junction	23	161,700	365,470	481,452	.....	.....	.....	4 10 0	50	54
Bristol and Gloucester	37½	400,000	211,000	657,825	.....	.....	.....	nihil.	30	59
Chester and Birkenhead	14½	750,000	143,170	518,989	5,856	13,148	0 10 0	2 0 0	50	60
Dublin and Drogheda	31	450,000	150,000	582,254	.....	.....	.....	nihil.	60	115
Dublin and Kingston	6	200,000	152,200	349,736	.....	.....	9 0 0	9 0 0	100	251
Dundee and Arbroath	16½	100,000	49,445	153,416	2,989	6,993	1 5 0	5 0 0	25	36
Durham and Sunderland	18½	169,350	124,055	270,392	9,889	17,702	.....	nihil.	50	25
East County and North and East	86½	4,443,200	1,341,155	3,931,905	47,385	118,726	1 6 6	.....	45	57
Edinburg and Glasgow	46	1,125,000	375,000	1,649,523	29,429	55,866	1 5 0	5 0 0	50	78
Glasgow, Paisley and Ayr	51	937,500	.....	1,071,258	12,446	36,736	1 5 0	5 0 0	50	72
Glasgow, Paisley and Greenock	22½	650,000	216,666	797.643	11,830	23,447	0 5 0	2 0 0	25	21
Grand Junction	104	2,478,712	.....	2,503,671	84,309	195,080	5 0 0	10 0 0	100	239
Great North of England	45	969,000	581,017	1,307,487	12,201	36,189	3 0 0	6 0 0	100	230
Great Western	221½	4,650,000	3,679,343	7,445,689	143,279	440,046	4 0 0	8 0 0	80	215
Hartlepool	15½	438,000	155,540	719,205	.....	.....	.....	8 0 0	100	...
Leicester and Swannington	16½	140,000	.....	140,000	2,207	6,317	1 5 0	5 0 0	50	...
Liverpool and Manchester	32	1,209,000	497,750	1,785,000	64,885	141,252	5 0 0	10 0 0	100	214
Llanelly	27	200,000	44,000	221,624	.....	.....	1 0 0	2 0 0	87	...
London and Birmingham	202½	6,874,976	1,928,845	6,614,005	96,413	456,997	5 0 0	10 0 0	100	245
London and Blackwall	3½	804,000	266,000	1,768,851	15,978	23,870	0 3 0	1 10 0	16	10
London and Brighton	56	1,935,000	705,000	2,637,753	30,490	130,156	1 10 0	6 0 0	50	77
London and Croyden	8½	550,000	229,000	761,885	7,583	10,545	0 8 0	4 0 0	14	23
London and Greenwich	3½	759,383	233,300	1,040,930	15,193	28,933	.....	nihil.	13	11
London and South Western	92½	2,222,100	630,100	2,604,405	89,439	190,631	2 0 0	10 0 0	41	82
Manchester and Birmingham	31	2,100,000	690,586	1,923,699	15,397	58,162	1 0 0	5 0 0	40	62
Manchester and Bolton	10	778,100	197,730	773,743	8,585	21,140	2 2 0	4 10 0	93	169
Manchester and Leeds and Hull	87	2,937,500	1,943,932	3,921,593	46,653	156,761	.....	8l. & 10l.	60	170
Midland railway	179½	5,158,900	1,719,630	6,279,838	75,227	276,129	3 0 0	6 0 0	100	192
Newcastle and Carlisle	61	878,240	188,563	1,135,069	26,499	46,745	5 0 0	5 0 0	100	113
Newcastle and Darlington	23	500,000	.....	405,728	.....	.....	1 0 0	8 0 0	21	56
Newcastle and North Shields	7	150,000	153,876	309,629	8,943	18,466	.....	6 9 0	50	69
North Union	39	739,201	308,306	1,028,593	24,788	37,794	2 10 0	6 5 0	100	176
Paris and Orleans	82	1,600,000	400,000	1,978,415	.....	.....	0 16 0	8 0 0	20	45
Paris and Rouen	84	1,440,000	.....	.....	31,247	91,171	.....	8 0 0	20	40
Preston and Wyre	19	830,000	179,852	355,161	4,191	7,066	.....	4 0 0	50	32
Sheffield and Manchester	19	1,150,000	311,759	951,455	11,895	14,876	.....	nihil.	87	135
South Eastern	88	2,996,000	1,530,277	3,464,172	69,288	139,042	.....	3 1 4	33	48
Taff Vale	30	465,000	195,000	595,089	9,115	22,692	1 17 7	3 15 0	100	104
Ulster	25	519,150	20,000	348,626	5,401	13,856	0 15 0	5 1 8	32	52
Yarmouth and Norwich	20½	187,500	62,500	230,036	5,186	10,008	1 0 0	5 0 0	20	29
York and N. Mid. and Leeds and Selby	28	1,062,500	167,500	1,107,146	31,349	75,474	2 10 0	10 0 0	50	115

NEW AND PROPOSED RAILWAYS.	Share Capital.
Aberdeen	1,600,000
Barnsley Junction	200,000
Belfast and Ballymena	385,000
Blackburn and Accrington	400,000
Birk. and Ches. Junction	1,000,000
Bolt., Wigan and Liverpool	800,000
Caledonian	1,800,000
Cambridge and Lincoln	1,250,000
Chatham and Portsmouth	5,000,000
Chester and Wrexham	120,000
Churnet valley	1,800,000
Direct Northern to York	4,000,000
Dublin and Belfast	950,000
Dundee and Perth	250,000
Edinburg and Northern	800,000
Ely and Bedford	270,000
Glosgow, Dum. & Carlisle	1,300,000
Gt. South and West Ext	1,200,000
Gt. Grimsby and Sheffield	600,000
Harwich and E. coun. Jun.	160,000
Huddersfield & M. rl. & cl.	600,000
Kendal and Windermere	125,000
Leeds and Dewsbury	400,000
Leeds and Thirsk	800,000
Liv. Ormskirk and Preston	600,000
London and Portsmouth	1,750,000
London and York	5,000,000
Londonderry & Enniskillen	500,000
Lynn and Ely	200,000
Manchester, Bury and Ross	300,000
Manchester and Buxton	250,000
Mullingar and Athlone	.....
Newcastle and Berwick	700,000
Richmond & W. End Junc.	.....
Scottish Central	700,000
Sheffield and Lincolnshire	650,000
Shrewsbury and Gd. Junc.	400,000
Shrew. Wolv. Dudly & B.	900,000
Trent Valley	900,000
West London Extension	64,000
West Yorkshire	1,000,000
Whitehaven and Maryport	100,000
FRENCH RAILWAYS.	
Boulogne and Amiens	1,500,000
Central of France	1,280,000
Lyons and Avignon	2,400,000
Orleans, Tours & Bordeaux	2,000,000
Paris and Lyons	2,500,000
Paris and Orleans	1,600,000
Paris and Rouen	1,400,000

Steam and Miscellaneous.

NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Anglo Mexican Mint	10,000	10	10	.....	15½	15½
Anti Dry Rot	10,000	.....	18½	.....	2	.....
Australian Trust Company	5,700	100	35	.....	34½	.....
General hteam Navigation	20,000	15	14	10	27½	27
Gt Western Steam Pa	.....	.....	100	.....	25	.....
Metropolitan Wood Pav	15,000	10	6	5	6½	.....
Patent Elastic Pav	10,000	1	1	5	1½	.....
Peninsular and Oriental	11,493	50	50	7	64½	65
Ditto	3,200	50	40	7	.....	.....
Polytechnic Institution	.....	.....	.....	6	.....	.....
Reversionary Int. Soc	5,387	100	100	4½	104	104
R. Mail Steam Packet	15,000	100	60	.....	36½	37
South Western Steam	4,000	25	5	.....	.....	.....
Ship Owners' Towing	3,000	10	7½	10	15	.....
Thames Tunnel	4,000	50	50	.....	.....	.....
University College	1,500	100	100	.....	.....	.....
Canals.						
Ashby de la Zouch	1,432	113	fav.	4	70	70
Barnsley	720	100	100	14	180	180
Birmingham, 1-16 share	3,000	118½	79	10	150	160
Do. and LiverpoolJunction	4,000	160	100	.....	13½	13½
Coventry	500	100	100	20	365	365
Cromford	460	do.	do.	24	250	250
Derby	600	do.	do.	9	105	105
Erewash	231	do.	do.	32	440	440
Forth and Clyde	1,297	400½	40½	4	440	440
Grand Junction	11,600	100	100	7	162	161½
Grand Surrey	1,500	do.	do.	.....	20	.....
Gloucester and Berkley	5,000	do.	do.	.....	8	8
Grantham	749	150	150	8	185	185
Lancaster	11,699	47½	47½	3	40	40
Leeds and Liverpool	2,897	100	100	34	640	640
Leicester	545		140	9	139	139

NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Loughborough	70	142½	142½	70	1140	
Monmouthseire	2,409	100	100	10	160	160
Melton Mowbray	250	100	100	10	117	117
Mersey and Irwell	500	100	1 0	10		
Macclesfield	3,000	100	100	2½	15	15
Neath	247	100	100	17	365	365
Oxford	1,786	100	100	30	505	
Regents or Loncon	21,418	33½	33½	2½	25	25
Shropshire	500	125	125	6	120	120
Somerset coal	800	150	150	7½	123	123
Stafford and Worcester	700	140	140	25	480	480
Shrewsbury	500	125	125	12	230	230
Stourbridge	300	145	145	14	360	360
Stroudwater	200	150	150	19		
Swansea	533	100	100	15	240	240
Severn & Why & Rail Av.	3,762	26½	26½	5½	30	30
Trent and Mersey	2,600	50	50	65	495	
Thames and Medway	8,149	19½	19½	.....	10	10
Warwick and Birmingham	1,000	100	100	10½	167	
Warwick and Napton	980	100	100	8½	122	
Water Works.						
Birmingham	4,800	25	25	3½	28	28
East London	4,433	100	100	8	223	225
Grand Junction	5,500	av.	41 2-3	7½	88	90
New River L. B. Ann.	1,500			2½		
Manchester and Salford	6,486	av.	30	8½	57	57
Vauxhall, lt. S. London	1,000		100	5	55	55
West Middlesex	8,294	av.	63½	6½	126	127
Docks.						
Commercial Dock	1,065	100	100	3	80	
ast and West India		sto.		5½	137	
ondon	3,238,310	sto.		4½	114½	115
Katharine	1,352,752	sto.		5	116	171
uthampton	7,000	50	50			

AMERICAN STATE WORKS AND CANALS, ETC.

	STATE WORKS.	Length in miles.	Cost.	1843. Income.	1843. Expend.	1844. Income.	1844. Expen
N. Y.	1 Black river canal	35	1,524,967	.....	.....	.....	.....
"	2 Cayuga and Seneca	21	237,000	16,557	10,953	24,618	14,443
"	3 Champlain canal	64	1,251,604	102,308	.....	116,739	.....
"	4 Chemung	23	684,600	8,140	14,486	14,385	12,740
"	5 Chenango	97	2,420,000	16,195	15,967	22,179	15,960
"	6 Crooked lake	8	156,777	461	3,674	1,498	3,951
"	7 Erie—enlargement of	363	12,648,852	1,880,316	.....	.....	.....
"	8 Genessee valley	120	8,739,000	.....	.....	.....	.....
"	9 52 miles opened, cost $1,500,000	.....	.....	12,292	13,819	19,641	15,557
"	10 Oneida lake	6	50,000	225	2,239	621	1,636
"	11 Oswego	38	565,437	29,147	22,742	56,165	28,599
Pa.	12 Beaver division canal	25	.....	.....	.....	7,381	5,386
"	13 Delaware canal	60	.....	.....	.....	109,278	22,870
"	14 French creek	45	.....	.....	.....	.....	.....
"	15 Seneca river towing path	.....	69,276	.....	.....	381	.....
"	16 Columbia railroad	82¼	4,204,969	.....	.....	443,336	205,067
"	17 Eastern division	36	.....	.....	.....	179,781	138,915
"	18 Juniata canal	93					
"	19 Portage railroad	36½	1,828,461	.....	.....	351,102	248,943
"	20 Western division canal	105					
"	21 North branch Susquehannah canal	73					
"	22 West " " "	72	.....	.....	.....	101,949	57,633
Ohio	23 Hocking canal	56	975,130	4,757	.....	5,286	4,139
"	24 Miami canal	85	1,660,742	68,640	38,826	77,844	22,341
"	25 Miami extension	105	2,856,636	8,291	.....	12,723	14,741
"	26 Miami northern division	35	322,000	.....	.....	unfin'd.	.....
"	27 Muskingum	91	1,627,318	23,167	.....	29,385	15,027
"	28 Ohio	334	4,600,000	322,754	123,398	343,711	113,210
"	29 Wabash	91	3,028,340	35,922	6,400	48,589	12,817
"	30 Walhonding	25	607,269	838	39,005	1,977	1,238
"	31 Western road	31	255,015	7,254	1,782	8,747	2,929
Ind.	32 Sundry works	.....	11,000,000	.....	.....	.....	.....
"	33 Maume canal	.....	.....	.....	.....	.....	.....
Ill.	34 Sundry works	.....	10,000,000	.....	.....	.....	.....
Mich	35 Central railroad	110	1,842,308	149,987	75,960	211,170	89,420
"	36 Southern railroad	68	936,295	24,064	7,907	60,341	70,000

The State Canals are all 4 feet deep, and the locks are 13 to 17 feet wide, and 60 to 90 feet in length.

The six millions paid to the canal fund from auction and salt duties are not included in the estimate of cost. The Genesee valley and the Black river canals require large sums for their completion, the interest of which *additional* sum is much greater than the estimated gross income of these canals when finished. The sums required to complete these two canals are $2,000,000 and $600,000, making their total cost when finished $5,553,000 and $2,409,000; an expenditure incurred on estimated incomes (admitted to be liberal,) of $39,000 and $14,000 respectively.

The total receipts from the works of Pennsylvania for 1843 were $1,019,401; for 1844 $1,164,326, and the cost about 30 millions.

The receipts for 1844 were as follows:

Canal tolls,	578,404
Railroad tolls,	252,855
Motive power,	319,590
Trucks,	13,477

of which $585,922 is from 118 miles of railroad, and $578,404 from 550 miles of canal.

The canals of Ohio are supported by a property tax of 5½ mills on the dollar. There are 853 miles of canal in the State, which yielded in 1843 $471,623, and in 1844 $515,393, the cost, 1st Jan. '43 being $15,577,233. The increase of '44 over '43 is only $43,770, though the year '44 has exhibited a greater increase throughout the country than ever before known.

These 21 millions on sundry works yield no income whatever.

The central railroad yields above 6 per cent., and is the only State work—the Erie canal excepted—which is able to stand alone.

	CANALS.	Length in miles.	Cost.	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Value of stock.
	Blackstone	.....	.....	.....	.....	....	.....	.....	....	.....
	Bald Eagle Navigation	25	400,000	.....	.....	....	.....	.....	....	.....
	Beaver and Sandy, (part)	.....	1,000,000	.....	.....	....	.....	.....	....	.....
	Charleston, (S. C.)	.....	.....	.....	.....	....	.....	.....	....	.....
	Chesapeake and Ohio	184	12,370,470	47,637	.....	....	.....	.....	....	.....
	Conestota	12	300,000	.....	.....	....	.....	.....	....	.....
	Delaware and Chesapeake	13	.....	.....	.....	....	.....	.....	....	26
	Schuylkill	108	3,500,000	279,795	102,221	....	190,693	120,624	....	31
	Farmington	.....	.....	.....	.....	....	.....	.....	....	.....
	James river and Kenhawa	.....	.....	.....	.....	....	.....	.....	....	.....
	Middlesex	.....	.....	.....	.....	....	.....	.....	....	.....
	Port Deposit	10	200,000	.....	.....	....	.....	.....	....	.....
	Delaware and Raritan	43	2,900,000	99,623	53,327	....	131,491	84,455	....	.....
	Southwark	.....	300,000	.....	.....	....	.....	.....	....	.....
	Tide Water	45	2,900,000	.....	.....	....	.....	.....	....	.....
	Union	80	2,000,000	.....	.....	....	.....	.....	....	.....
	Morris	101	1,000,000	.....	.....	....	.....	.....	....	26½
	Dismal Swamp	.....	.....	.....	.....	....	.....	.....	....	.....

REMARKS.

We may, perhaps, at some future time be enabled to give the particulars of all these canals.

The Chesapeake and Ohio canal is not yet completed to the coal mines, hence its trifling income.

The enlargement of the Schuylkill canal has been commenced.

The Morris canal was lately sold for one million, about one-fourth of its cost.

CANADIAN CANALS.	Length in miles.	No. of locks.	Lockage in feet.	Size of locks. Length of chamber.	Size of locks. Width.	Depth on mitre sill.	Width of canal. Bottom.	Width of canal. Surface.	Estimate.	Expended to Sept. 1843.	Income. 1843.	Income. 1844.
				feet.	feet.	feet.	feet.	feet.				
The Welland canal	.....	.....	.....	.....	.....	.....	.....	.....	3,948,572	2,485,572	64,658	
Main trunk from Port Colborne to Port Dalhousie	28	31	328	150	26 1-2	8 1-2	45	81	.....	.....		
Junction branch to Dunville (not added)	21	1	6	150	26 1-2	8 1-2	35	71	.....	.....		
Broad creek branch to Port Maitland (below.)	1 1-2	1	6	200	45	9	45	85	.....	.....		
The St. Lawrence canal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Galops and Port Cardinal	2	2	7	200	45	9	50	90	.....	.....		
Rapid Plat	4	2	11 1-2	200	45	9	50	90	672,498	973		
Farren's point	3-4	1	3 1-2	200	45	9	50	90	.....	.....		
Cornwall, passing the Long Sault rapids	11 1-2	7	48	200	55	9	100	150	865,372	1,665,663		
Beauharnois, do. Coteau, Cedars and Cascades road	11 1-4	9	82 1-2	200	45	9	80	120	1,190,087	275,426		
Lachine, do. Lachine rapids	8 1-2	5	44 1-2	200	45	9	80	120	old canal.	400,000	29,288	
Elargement of do.	.....	.....	.....	.....	.....	.....	.....	.....	1,001,333	64,439		
Total from lake Erie to the sea	12	57	525									
Chambly	66	9	74	120	24	6	36	60	200,000	440,000	1,409	

COAL COMPANIES.	Length in miles. R. rd.	Length in miles. Canals.	Cost.	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Value of stock.
Delaware and Hudson	16	108	2,800,000	930,203	196,702	10	.....	.....	....	130
Lehigh	20	72	6,000,000	.....	.....	....	.....	.....	....	31

REMARKS.

AMERICAN RAILROADS.

		RAILROADS.	Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on share	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Previous prices	SALES. Week ending Sept. 15. Last	SALES. Week ending Sept. 15. Sales
Me.	1	Portland, Saco and Portsmouth	50	1,200,000				89,997	47,166	7	131,404	62,172	6	101¼		100½
N. H.	2	Concord	35	750,000									12	65		
Mass.	3	Boston and Maine	56	1,485,461				178,745	68,499	6	233,101	86,401	6½	111		
"	4	Boston and Maine extension	17 1-4	455,703	unfin.											
"	5	Boston and Lowell	26	1,863,746				277,315	144,000	8	316,909	147,615	8	118		117½
"	6	Boston and Providence	41	1,886,135	none.	18,600	100	233,388	110,823	6	282,701	156,109	6	111		
"	7	Boston and Worcester	44	2,914,078				40,141	162,000	6	428,437	195,163	7½	116½		116¾
"	8	Berkshire	21	250,000	not stated				17,500	7	17,737					
"	9	Charlestown branch		280,260						13	34,654	13,971	5½	80		
"	10	Eastern	54	2,388,631				279,563	140,595	6	337,238	227,920	8	107½		107½
"	11	Fitchburg	50	1,450,000	just opn'd						42,759	26,835		119		
"	12	Nashua and Lowell	14 1-2	380,000				84,079		8	94,588	34,944	10	126		
"	13	New Bedford and Taunton	20	430,962				50,671	24,000	6	64,998	24,000	6	102		
"	14	Northampton and Springfield		172,883	unfin.											
"	15	Norwich and Worcester	59	2,170,366	900,000	16,535	100	162,336	24,871		230,674	99,464	3	67		69¼
"	16	Old Colony		87,820	unfin.									105		
"	17	Stoughton branch	4	63,075	unfin.											
"	18	Taunton branch	11	250,000					20,000	8	96,687	20,000	8	120		
"	19	Vermont and Massachusetts														
"	20	West Stockbridge	3	41,516	200		100						4			
"	21	Western, (117 miles in Mass.)	156	7,686,202	4,686,202	30,000		573,882	284,432		753,753	439,679	3	98¼		97½
"	22	Worcester branch to Milbury		8,431	506											
"	23	Housatonic, (10 months,)	74	1,244,123							150,000			26		33
Con	24	Hartford and New Haven	38	1,100,000	100,000	10,000	100						6	93		
"	25	Hartford and Springfield	25 1-2	600,000	400,000	2,000	100									
"	26	Stonington, (year ending 1st Sept.,)	48	2,600,000	650,000	13,000	100	113,889			154,724	79,845		29		32
N. Y.	27	Attica and Buffalo	31	336,211				45,896	7,522		73,248	48,033	0			
"	28	Auburn and Rochester	78	1,796,342	200,000	14,000	100	189,693	112,000		237,667	152,007	6	109		103
"	29	Auburn and Syracuse	26	766,657			133½	86,291	27,334		96,738	52,544	6	116		
"	30	Buffalo and Niagara	22	200,000		1,500								100		
"	31	Erie, (446 miles,)		5,000,000										27½		31¾
"	32	Erie, opened	53						48,000		126,020	59,075				
"	33	Harlem	26	2,250,000	750,000	30,000					140,685	62,399		61		62¾
"	34	Hudson and Berkshire	31	975,61			50				35,029	1,789	0	11½		
"	35	Long Island	96	610,22	392,340	29,846					153,456	58,996	0	61½		65½
"	36	Mohawk and Hudson	17	1,317,893	400,000	10,000	100	69,948	58,780		79,804	45,763	0	56¾		57
"	37	Saratoga and Schenectady	22	303,658				42,242	3,000	1	34,666	8,455	0			
"	38	Schenectady and Troy	20 1-2	640,800				28,043			32,646	6,365	0			
"	39	Syracuse and Utica	53	1,115,897	none.	16,000	62½	163,701	72,000		192,061	120,992	8	117		
"	40	Tonnawanda	43	727,332				76,227			111,177	75,865	5			
"	41	Troy and Greenbush	6	180,000										90		
"	42	Troy and Saratoga	25	475,801				44,325	21,000		38,502	9,971	2½			
"	43	Utica and Schenectady	78	2,168,165	none.	20,000	100	277,164	180,000	9	331,932	199'094	8	132		
N. J.	44	Camden and Amboy	61	3,200,000				682,832	383,880		784,191	404,956		112		
"	45	Elizabethtown and Somerville	26	500,000												
"	46	New Jersey	34	2,000,000										95½		
"	47	Paterson	16	500,000									6	88½		
Pa.	48	Beaver Meadow	26	1,000,000												
"	49	Cumberland Valley	46	1,250,000												
"	50	Harrisburg and Lancaster	36	860,000										30		
"	51	Hazleton branch	10	120,000												
"	52	Little Schuylkill	29	900,000												
"	53	Blossburg and Corning	40	600,000												
"	54	Mauch Chunk	9	100,000												
"	55	Minehill and Schuylkill Haven	19 1-2	396,117	25,000	7,019	50			12			12	80		
"	56	Norristown	20	800,000										6½		
"	57	Philadelphia and Trenton	30	400,000										104		
"	58	Pottsville and Danville	29 1-2	1,500,000												
"	59	Reading	94	9,457,570	7,447,570	40,200	50				597,613	343,511		25		24½
"	60	Schuylkill valley	10	1,000,000												
"	61	Williamsport and Elmira	25	400,000				20,000								
"	62	Philadelphia and Baltimore	93	4,400,000				43,043	200,000			210,000		15½		15½
Del.	63	Frenchtown	16	600,000												
Md.	64	Baltimore and Ohio, (1st Oct.)	188	7,623,600				575,235	279,402		558,620	346,946		48½		
"	65	Baltimore and Susquehanna	58	3,000,000										2¾		
"	66	Baltimore and Washington	38	1,800,000				177,227	71,691		212,129	104,529		84		
Va.	67	Greensville and Roanoke	18	284,433	37,544	2,000	100				25,368	6,074		28		
"	68	Petersburg	63	969,880	63,000	7,690	100				122,871	72,898	3	77		
"	69	Portsmouth and Roanoke	78 1-2	1,454,171												
"	70	Richmond, Fredericksb'g and Potomac	76	800,000							185,243	85,688	6			
"	71	Richmond and Petersburg	22 1-2	700,000												
"	72	Winchester and Potomac	32	500,000												
N. C.	73	Raleigh and Gaston	84 1-2	1,360,000												
"	74	Wilmington and Raleigh	161	1,800,000												
S. C.	75	South Carolina	136	5,671,452		34,410	75				532,871	140,196	5			
"	76	Columbia	66					201,464	77,456		328,425	180,704				
Ga.	77	Central	190	2,581,723				227,532	93,190							
"	78	Georgia	147 1-2	2,650,000				248,026	158,207		248,096	147,523				
"	79	Montgomery and West Point	89	500,000	170,000		100				35,000	15,000				
Ky.	80	Lexington and Ohio	40	450,000												
Ohio	81	Little Miami	40	400,000												
"	82	Mad river	40	152,000												
Ind.	83	Madison and Indianapolis	56	212,000												
Can.	84	Champlain and St. Lawrence	15						12,000		58,000	24,000		110		

Correspondents will oblige us by sending in their communications by Monday morning at latest.

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AMERICAN RAILROAD JOURNAL.

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Thursday, October 2, 1845.

THE COAL TRADE—SCHUYLKILL VALLEY.

The shipments by railroad are 23,204 tons, and by canal 9,085 05, making 32,289 95 tons for the week.

BY RAILROAD.

From Pottsville and Port Carbon—total	280,106
From Schuylkill Haven—total	289,003
From Port Clinton—total	14,968
Total by railroad	584,048

BY CANAL.

From Pottsville and Port Carbon—total	111,181
From Schuylkill Haven—total tons	31,084
From Port Clinton	36,935
Total by canal	179,203
Total by railroad and canal	763,251

LEHIGH COAL TRADE.

Total shipments from Mauch Chunk. Lehigh coal and navigation co.		
Summit mines, - -	144,238	
Room run do., - -	54,726	198,961
Beaver Meadow railroad and coal co.,		62,112
From Penn Haven—Hazleton coal co.,		53,856
From Rock Port—Buck Mountain coal co.,		16,331
		330,263
Wyoming Coal Trade—total		121,551
Pine Grove Coal Trade.—total		38,126
Minehill and Schuylkill Haven Railroad—total tons		319,800
Mount Carbon Railroad—total tons		193,366
Mill Creek Railroad—total		55,153
Schuylkill Valley Railroad—total		67,402

[Miners' Journal.

Western Railroad.—Receipts for the week ending September 20.

	1845.	1844.
Passengers	$10,487	$11,296
Freight, etc	9,999	6,926
Total	$20,486	$18,222
Nett gain this week		$2,264
Nett gain previously since Jan. 1, '45		30,977
Total gain		$33,241

Atlantic and St. Lawrence Railroad Company.—We learn from the Portland Advertiser that Thursday was a day of triumph and festival at Portland, it being the day appointed for the organization of the St Lawrence railroad co. The British and American flags were flying over the City Hall, and in various parts of the city.

The meeting of the stockholders was called to order by judge Preble, and the mayor chosen to preside. John Neal was chosen clerk of the corporation, and took the oath of office. The directors chosen are as follows:—William P. Preble, of Portland, James Deering, of Westbrook, John Mussey, John B. Brown, John Anderson, Eliphalet Greely, St. John Smith, Josiah S. Little, James L. Farmer, Thomas Hammond and George Turner, of Portland, John A. Poor, of Bangor, Ezra F. Beal, of Norway.

Albany and Schenectady Railroad.—An important change in the hour of departure from Albany goes into operation to-day. The one o'clock train has been brought forward to nine o'clock in the morning in order to take travellers at once west, whenever the boat (as will be the case at this season of the year) is detained by the fog. Heretofore passengers who have arrived after 7½ o'clock, have had to wait all this morning before they could leave for the west.

"Wear of Railroad Iron."—A well written article on the "wear of railroad iron," on different kinds of substructure, by James Herron esq., civil engineer, in reply to our article published by us, on 31st July, from the Boston Courier of the 15th of that month, accompanied by the remarks of "J"—not of the editor—is received, but it came too late for this number, and will therefore find a place in our next.

"Suspension Aqueduct."—We have received from Mr. John A. Roebling, an exceedingly interesting description accompanied by a drawing, of the "suspension aqueduct," recently constructed by him, over the Alleghany river, at Pittsburg, for the passage of the Pennsylvania canal into that city.—We have looked with no little interest, for this description, as this is, we believe, the *first* work of the kind ever constructed, and are therefore greatly obliged by the opportunity of presenting our readers with the first full account of a work so creditable to his enterprize and skill. We shall give it with the illustration in our next number.

"Another Railroad Route," is received and will appear in our next, notwithstanding the writer's insinuation of "undue influence." We will simply remark that no person ever spoke to us in relation to the project referred to; and that we have learned, by an intercourse with society of near forty years, that none are more liable to the charge of being operated upon by "undue influences" than those who are most ready to cast the imputation upon others.

Miami and White Water, Ohio canals

We learn from the Cincinnati Gazette—and we thank the editor for his courtesy in sending it to us again, as we missed it sadly—that the Miami canal breach would be repaired so as to be navigable again on the 16th inst., but that the Lawrenceburgh branch of the White Water canal, would not be navigable under three or four weeks. This is much to be regretted, as the business season will now soon be over. It is however gratifying to learn, as we do, from the Gazette, that Cincinnati is realizing the fruits of her enterprize, in the daily receipt of large quantities of produce by the Little Miami railroad and the white water canal. The present receipts are however only a drop in the bucket, in comparison to what they will be in a few years. *Cincinnati* will yet reap rich harvests from her railroads and canals. Twenty years more will produce changes which will astonish her most sanguine friends.

Rutland Railroad.

The Bunker Hill Aurora says that Mr. Gilbert has completed his survey, and the profile and estimates of the railroad from Bellows Falls to Burlington, are exhibited at No. 9 Merchants' Exchange. An address in behalf of this railroad, signed by about 200 merchants in the city, has been published, and a strong effort is being made to complete the subscription for stock.

And the effort will succeed too, who will believe that the Boston merchants will not meet the overtures of western Vermont.

Credit to whom it is due.

There are two reasons why those who copy articles from other journals, should acknowledge the source from whence they were derived; 1st, that he who adopts them, may not be chargeable with their errors, if they are not correct; 2ndly and mainly, that he who puts them forth may have his due, if they are useful. *Our* reason for alluding to the subject, is simply to request those, who avail themselves of our labors—which, by the by, we are always desirous they should do, will either disguise them by clothing them in more appropriate language, that we may use them again to better purpose, *or* put on the appropriate *ear mark*, that we may pass them by; as it is exceedingly vexatious to be led, by a slight alteration in the introduction, to republish ones own paragraphs. On "second sober thought" we should never mistake, from its lack of polish, or finish, our own work, even if we saw it on the locomotive "galaxy" on the *Middlebury* and Rutland route to Boston, or even upon any of the southern or western lines of road, though when looking upon one object and thinking of another, we might not detect its origin.

Monroe, Georgia Railroad.

We noticed some time since, the sale at auction, of this railroad and its appendages, to J. Cowles, esq. and others, in accordance with notice previously given, for $155,100, and in a subsequent number, we published a paragraph from the Macon Messenger, which intimated an intention on the part of Andrew R. Moore and others, to contest the sale as illegal. Since then we have endeavored to ascertain the facts in relation to the sale, and we have reason to believe that the sale was not only legal, but fortunate also, as the purchasers are able and ready to complete that part of the road not yet finished, and also to put the whole line in good repair, and efficient working order, that the people along its line may begin to derive some advantage from it.

We have, at different times, during the past ten years, published notices of this work; but have not until recently, understood its proper position, nor appreciated its value. On examination, we are at a loss to know why it is called the "*Monroe* railroad" in as much as it does not pass through, nor within many miles of any place of that name—but commences at Macon, the termination of the Central road from *Savannah*, of 190 miles in length—and passes through Forsyth, Griffin and other towns, the distance of 101 miles to Atlanta, about five miles west of Decatur in Dekalb county. It is at this point, we believe, that the "Georgia and South Carolina railroads," from Augusta and Charleston 312 miles in length terminates; and the "Western and Atlantic road" of about 140 miles in length, to the Tennessee line at Rossville, commences. Thus it will be seen that the *Monroe railroad* is to form the connecting link between the *Central* road from Savannah, and the state, or Western and Atlantic road, to the Tennessee line, and with the "Hiwasse railroad," from, or near the line, 98 miles north-easterly to Knoxville. There can now, we think, be little doubt, but that operations will be again, at no distant day, resumed on the "Hiwasse," which was nearly, or quite graded some years ago, and then abandoned for want of means to go on. It is also now almost certain, that the "Western and Atlantic

road" will be continued from Rossville, to Chattanooga on the Tennessee river and from thence to Nashville 130 miles, thus opening a communication with middle Tennessee, Kentucky and Ohio, by Steamboats on the Cumberland river to Nashville. By this route, the cotton bagging and provisions, from Kentucky and Ohio, which now find their way to New Orleans and around the capes of Florida, to Savannah and Charleston, and then to the interior of Georgia, over the railroads, a distance of over 2300 miles, at an enormous expense, will pass up the Cumberland about 200 miles to Nashville, and then over the railroads to Atlanta, about 300 miles, and from this point, it may pass over the Monroe road to Macon and Savannah 101, or 291 miles; *or* to Augusta and Charleston 172, or 312 miles. Who that looks at this subject understandingly, will not see the importance, especially to Savannah and the interior of Georgia, of having the Monroe road put in good working condition as early as possible? Not only from its serving as a connecting link between the central and state roads, from Savannah to Tennessee, but also as it *is to become* the connecting link between the road from Charleston and Augusta, and the West Point and Montgomery railroad in Alabama. The company which owns the the Monroe road, also have the *control* of the charter for a railroad from Griffin, on the Monroe road, to West Point, 68 miles, where it will connect with the railroad to Montgomery, now in use, in the direct line to Mobile and New Orleans; and it is an important fact, with which we were not, until recently acquainted, that this short line of *sixty eight* miles, and the distance from Griffin to Atlanta about *fifty miles*, where the Monroe road connects with the line to Charleston, are the *only* remaining links to be completed, to open a *steam* route of travel, by steamboat and railroad, from *Bangor in Maine, to New Orleans and Texas!* Thus it will be seen that this "Monroe road," and its branch from Griffin to West Point, occupies a position of vast importance; as, with its *three* arms pointing from Griffin northwardly, southeasterly, and southwesterly, it commands the passes from Savannah to Alabama, to Tennessee, and also from Charleston to Alabama and New Orleans. It is in reality to be the "Turn table" for *four* other important railroads, and it becomes the purchasers to put it in the best possible order, at the earliest period, and when they have done this, we hope they may derive a liberal return for their investment.

We shall soon refer to this subject again, in connection with the extension from the Tennessee river to Nashville and to St. Louis.

Oswego and Syracuse Railroad.

We have taken much interest in the success of this work, as promising to be one of great utility and convenience, connecting two important mediums of travel, and transportation, by the shortest possible route of favorable connection.

The route of this road is an exceedingly favorable one, and its estimated cost only $350,000—of which $200,000 has been subscribed at Oswego, Syracuse, and along the line; and now the commissioners offer to the capitalists of this city, the balance of $150,000. We understand that the *right of way* has been mostly obtained, and that it only remains for the city of New York to subscribe this small amount to the capital, to insure an immediate commencement of work upon the line, and an early completion of the road—and will it not be done? shall it be said that New York hesitates to subscribe $150,000 to a work which will secure to her own storehouses, the business for which Boston is investing *millions* to obtain? We shall see.

Canals cheaper than Railways.

"A Norwich paper says that the railway company have been forwarding coals and iron from their own wharf to Norwich by water, as being cheaper to them than taking them on their own rail."

We copy the above from the "London Railway Express" of 29th August, for the purpose of giving both sides of the question, as it has been intimated by some of our subscribers—and we believe them to be warm and true friends also—that we do not give *canals* a fair chance with railroads, or in other words, that we stand so very upright between the two, that we actually lean a *little* over towards railroads. Possibly it may be so, though surely not intentionally—as we have not, and never have had any except a general interest, to be promoted or injured by the success or depression of either—but after an early examination of the subject, we came to the conclusion, a long time since, that canals, for general use, were to be numbered with things that have been, while *railroads* would become the popular, the common, if not the *universal* mode of transacting business on main lines and general routes. Thus far we have not seen cause, nor do we now, to change that opinion; but on the contrary, every year's experience serves to convince us, more fully if possible, that we were and are correct in the belief that canals must yield generally to railroads, except under peculiar circumstances. We should therefore be gratified to learn that our highly esteemed friend, who recently desired to convince us that, in the "old dominion," at least, it would be better to go on and complete their canal system to the Ohio, than to adopt railroads—had changed his views and come out an advocate of railroads, as in that way only, will he allow us to say it? can he most speedily and *effectually* develope the resources of that time-honored commonwealth, which we know he loves as his own mother.

As we desire to give both sides of this really important question, we give the paragraph at the head of this article, and will give others like it when we find them.

For the American Railroad Journal.

Grand and Important Discovery.

This is a project to use the elasticity of atmospheric air as a prime mover of machinery. The idea is derived from its application, after compression, to air-guns. But the great difficulty in the present case is, or as it has hitherto existed, how to receive and accumulate it in a vessel from which to allow its escape in the just quantum of body sufficient to force a piston and by this piston to move a lever, without unnecessary loss; and at the same time to keep the reservoir of power undiminished. Of these two great difficulties, the projector considers the last the most important to be overcome and the only hindrance to the application of this, perhaps, more powerful agent than steam, to the propulsion of boats. He establishes his theory upon the fact that a square inch of air will counterbalance a weight of 14 lbs., that it can be compressed into 1551 parts less than its natural volume, as Buffon has it in his translation of Hales. To overcome the difficulty referred to, the projector, Sig. Gonzaga of Rio de Janeiro, claims the merit, and has no objection to sell the privileged right of his invention. He further announces that besides the agent in question he has others derived from the power of the pinion, lever of the first order, pendulum, blocks, etc., etc., powers, these, well known in mechanics, and possibly these projects may have been, in their application and combination, the same with which the Chinese in their last war with the English, were seen to keep boats in motion without steam.

For the American Railroad Journal.

New Anthracite Furnace.

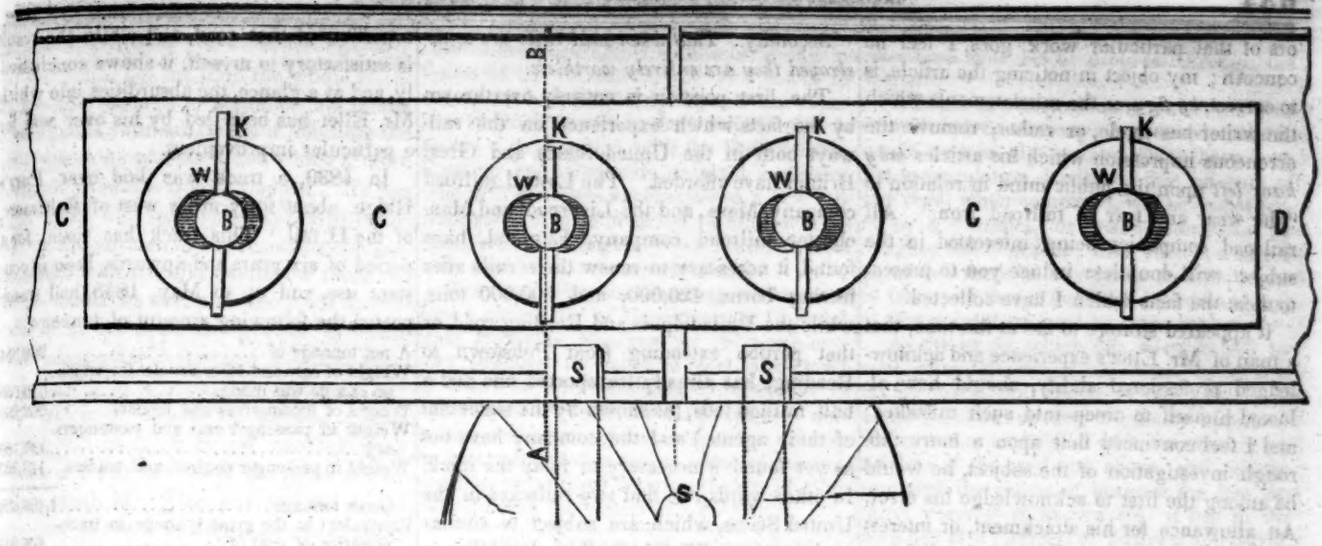
We are indebted to an estimated friend, for the following description of the new anthracite furnace recently erected by ex-governor Porter, and Michæl Burke Esq. at Harrisburg Pa. and we avail of this opportunity to express to him our thanks for his repeated favors, during a series of years past, in aid of the railroad cause. This account of the successful operation of this new furnace, will be very acceptable to all who are interested—and who is not?—either in the extension of the manufacture of iron, or in the construction of railroads, and we shall always be gratified and obliged by receiving similar accounts of other new works.

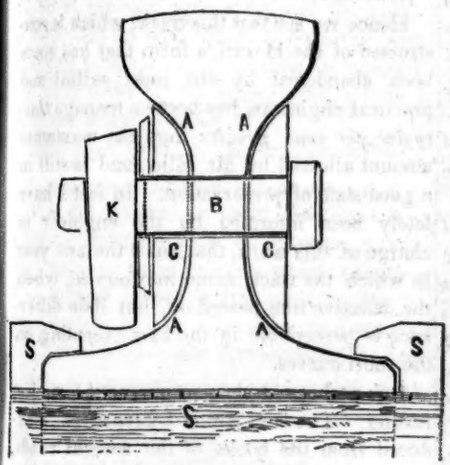
The large anthracite furnace recently erected at Harrisburg, by ex governor Porter and Michæl Burke esq., has now been in operation for more than two months, and the success of what is still considered by many as an experiment, is a source of pleasure to the friends of the iron interests, as it must be gratifying to the enterprizing proprietors of the establishment.

The height of the stack is about forty feet, and the diameter at the boshes, eleven feet. The blast is furnished by an engine of about sixty horse power, driving two cast iron blowing cylinders of five feet diameter and five and a half feet stroke. But one blowing cylinder is in use at present however, as this one furnishes sufficient blast for one stack, the two cylinders and the machinery being calculated to furnish blast for two stacks, as it is the intention of the proprietors to erect the second stack during the coming season. The ore and coal is lifted vertically from the ground to the top of the stack by means of a water balance, which receives its supply from a reservoir at the top of the furnace, the water being forced up into this reservoir by means of a pump worked by the engine.—The ores used in the Harrisburg furnace, are procured from Chesnut Hill, near Columbia, and from Cumberland county, about five miles from Harrisburg. These ores are mixed in about equal qnantities before the charges are put in the furnace; the coal is procured from Wyoming valley.

The furnace produces at present eleven and a half tons per day, or about eighty tons per week. With the two stacks in operation, this furnace will consume about twenty thousand tons of anthracite coal per annum, and an equal amount of iron ore.

The proprietors of the Harrisburg furnace, have understood their true interest, and have paid more attention to the quality than the quantity of iron produced by their furnace.—The result has more than realized the most sanguine anticipations of their friends, as the iron from this establishment has, wherever it has been used, taken precedence of the best charcoal irno manufactured in this part of the state.





Section through A. B.

Weight of rail 63 lbs. per yard. Weight of clamp, bolts, keys and washers 10 lbs.

Scale half size.

Improved Mode of Fastening Rails at the Joints.

We are indebted for the above drawing and description of a new mode of fastening rails at the joints, to Isaac R. Trimble Esq., superintendant of the Philadelphia, Wilmington and Baltimore railroad. This mode of fastening has been adopted to some extent on that road, as we are informed, with entire success. We therefore commend it to the consideration of those railroad companies, about to relay the old, or to put down a new track. We hope to have an opportunity soon, to examine it in operation, when we will refer to it again.

OFFICE OF THE PHILADELPHIA, WILMINGTON AND BALTIMORE RAILROAD.
Wilmington, August 12, 1845

For the American Railroad Journal.

Dear Sir:—Since the first introduction of railroads in England and the United States, of the great variety of chairs and fastenings devised to secure the rail together at the joint, and the joint to the sill or block beneath, not one has been fouud to give entire satisfaction. The one herewith described, may share the same fate as those preceding it: but as it is designed to operate in a very different manner from all others hitherto used, it may possibly answer a better purpose, as I think it will, and prove of some benefit to those laying down rails hereafter, as well as comfort to the traveller.

I can say as far as tried on the new edge rail, laid down on our road this spring, it has proved most excellent—keeping the joints tight, the spikes from drawing, and almost entirely destroying the "beat" when the wheels pass the joints. It is to be kept in view that the object of this fastening, is to "splice" the rails at the joint, and thus obtain, as far as may be possible, the same vertical strength at the joint, as at intermediate points of the rails. This object I am satisfied can be effected—a similar plan was adopted to lengthen out a bar for a switch several years ago, which in use has answered ever since, without derangement.

Experiments were also made a year or two past, by captain Barr, of the Newcastle railroad, for a similar purpose.

A glance at the drawing will show the design. C, D, exhibits a side view of the rails at the joint, with clamp attached, resting on the joint crosstie, S, without any interposing substance whatever, between the rails and the crosstie; c,c, is the clamp iron fitting *loosely* against the vertical side of rail, but *snugly* at the re-entering angles or curves at the joint a,a,a,a; b,b, are the bolts; k,k, the keys; w,w, the washers; s,s, the hook spikes.

A sectional view through A,B, exhibits clearly the whole arrangement, with section (half size) of new rail as laid down and in use. Provision is made for expansion by the longitudinal "slots" in the clamps.

The following was the cost of work and materials for one joint.

	$ c.
9 lbs. of clamp iron rolled, cut and punched, at 4½ cents	0 40½
4 holes drilled by hand, per joint 3 cents	0 12
1 lb. of bolts, keys, and washers 8 cents	8
	0 60½

The cost of iron work for clamps, will not be at this time, for each clamp and fixture, over 45 cents, or if rails are imported ready drilled, the cost of fastening will not exceed per joint, 33 cents, which would make as cheap a fastening as any now in use, of cast iron, disregarding any question of relative superiority.

I. R. T.

P. S. Should there be any failure in the working of this "clamp fastening" I will not omit to advise you.

Wear of Railroad Iron.

The following communication, in reply to Mr. Ellet's theory in relation to the destructibility of railroad iron, is very acceptable; not that *we* deem any refutation necessary, other than that which is in *practical operation*, not only on the *Reading* and the *Baltimore and Ohio* roads, but also on many other roads both in this country and in Europe, but for the satisfaction of those who have already invested and those who desire to invest, their capital in railroad stocks, we are obliged to the writer, as we shall always be to those who furnish useful and important practical information.

Will not other gentlemen, who have the facts in their possession, communicate them for publication in the Journal? can they in any other way render better service to the cause, just at this moment?

This is precisely the period when the people in every part of the country are looking to the construction of railroads for increased facilities for the transaction of business: of course, then, now is the time to give them *facts* derived from experience, on our pioneer roads.

For the American Railroad Journal.

In the Ledger of Philadelphia, of 23d August, I find an article over the signature of "Charles Ellet, Jr.," in relation to the Reading road, and "the wear of railroad iron." As far as his attack upon the direct-

ors of that particular work goes, I feel no concern; my object in noticing the article, is to correct, *by figures*, the misstatements which the writer has made, or rather, remove the erroneous impression which his articles *may have left* upon the public mind in relation to "the wear and tear of railroad iron." All railroad companies being interested in the subject, will doubtless induce you to present to them the facts which I have collected.

It appeared strange to me at the time, that a man of Mr. Ellet's experience and acknowledged professional ability, should have allowed himself to creep into such mistakes; and I feel convinced that upon a more thorough investigation of the subject, he would be among the first to acknowledge his error. An allowance for his attachment, or interest if you choose, in a rival work of a different character will readily be made by all who understand his position, but those who are ignorant of this fact can only arrive at their conclusions from the statements which he has so boldly set forth, and the obvious impressions which they are designed to convey.

His position with regard to the wear of railroad iron established and not only must the stocks of all our railroads fall in the estimation of the public, but the money which has been invested in many be regarded as lost forever. One fatal error into which Mr. Ellet appears to have fallen is, that the wear of all rails is the same, and that because the Liverpool and Manchester company have been obliged to renew their tracks a second time since the completion of their road, after transporting over them an average freight of 500,000 tons, other companies must anticipate the same necessity. This is the only inference which can fairly be deduced from his statements—whereas every person whose attention has been at all directed to the construction of railroads, and particularly every civil engineer in our country, must admit that the liability to compression, and the daily wear of the bars from friction, is in proportion to the perfection of the substructure, and the machinery or motive power of the road. This fact must certainly be known to the gentleman, and it would have been well had he noticed it in his essay upon the subject.

There is another omission which I cannot allow to pass unnoticed. When the rails are worn out they are thrown aside and regarded by him as worthless. The public will then bear in mind that the arguments of Mr. Ellet have been based upon the following hypotheses:

First: *That all rails of whatever form and substructure are liable to like destruction.*

Secondly: *That when said rails are so destroyed they are entirely worthless.*

The first position is entirely overthrown by the facts which experience on the railways both in the United States and Great Britain have afforded. The Lowell railroad company, Mass., and the Liverpool and Manchester railroad company, England, have found it necessary to renew their rails after having borne 420,000, and 500,000 tons, while the Philadelphia and Reading road, or that portion extending from Pottstown to Reading, has already transported one and a half million tons, (as shown by the statement of their agents,) and the company have not as yet found it necessary to relay the track. In other words, we find two railways in the United States, which are subject to similar management, differing in their durability in the ratio of 1 to 3. The cause of this difference would require actual observation to define—the difference itself might be easily accounted for by any engineer who is acquainted and familiar with the several modes of construction which have been adopted by the railroad companies of our country.

When the article of Mr. Ellet, to which I have reference, first appeared, I confess, in the absence of other evidence, that I was staggered by his statements. If 500,000 tons of coal, or the transportation of that amount over a railroad will destroy the iron and render it necessary for the company to relay the track, what is the use of making the road? Are not all our railroads visionary schemes, and their projectors doomed to receive the execrations of a confiding people? Altho' some of our railroad companies have consented to carry the article of coal at a lower rate than merchandize, owing to the reduced cost of necessary cars, and decrease in their wear and tear, it is generally believed that less than 1½ cents per ton per mile will not pay more than a fair profit for its transportation. Assuming this amount of 1½ cent per ton per mile, which is a liberal allowance, we find our railroad companies will be obliged to relay their tracks when they have received for transportation $7,500 per mile, which is less by 25 per cent. than the original cost of any good track in the United States, without reference to graduation and masonry. Hence the conclusion from Mr. Ellet's reasoning is irresistable, *that all the money invested in our railroads is inevitably lost.*

In order to inform myself upon the subject, I have collected and condensed, at no little trouble, from the reports and books of the Baltimore and Ohio railroad company, the tonnage which has been transported over a portion of that road, and while the result is satisfactory to myself, it shows conclusively, and at a glance, the absurdities into which Mr. Ellet has been led by his over zeal for a particular improvement.

In 1839, a track was laid over Parr's Ridge, about forty miles west of Baltimore, of the H rail. This track has since, for a period of six years and upwards, been in constant use, and up to May, 1845, had transported the following amount of tonnage:

A net tonnage of	308,354
Weight of cars and other articles for which no charge was made	540,000
Weight of locomotives and tenders	262,260
Weight in passenger cars and passengers say	197,100
Weight in passenger engines and tenders	148,920
Gross tonnage	1,456,634
Equivalent to the gross tonnage in transportation of coal of	676,848

Hence we see that this track, which is constructed of the H rail, a form that has since been abandoned by our most skilful and practical engineers, has borne a tonnage *thirty-five per cent. greater* than the maximum amount allowed by Mr. Ellet, and is still in a good state of preservation. In fact I have lately been informed by the engineer in charge of this work, that since the first year in which the track came into service, when the defective iron pealed off, but little difference is perceptible in the bars excepting on the short curves.

It is perhaps useless to pursue the subject further. The facts which I have already adduced from the books of the several roads, must dissipate forever the absurdities into which the credulous may have been led by Mr. Ellet's communications. Without giving the details, however, I will present the result of my investigation into another portion of the same road, which has been longer in use and consequently subject to greater travel.

From the town of Ellicott's Mills, a distance of about ten miles, the Baltimore and Ohio railroad is constructed of plate rail with common wooden substructure. Since this rail has been in use it has sustained a trade fully *two-thirds* greater than that mentioned above, or equivalent to the transportation of 1,128,081 tons of coal, or more than twice the quantity considered necessary by Mr. Ellet to render the track unfit for use. The identical track, however, is now passed over by the daily trains, and although considerably worn is considered safe by the superintending engineer.

The next and second position, which, if not assumed by Mr. Ellet, *verbatim*, is virtually relied upon, is the worthlessness of the rail after being compressed or rendered unfit

for present purposes. The writer has here told the truth, but far from the whole truth. He has told enough to prejudice the public mind against railroads, without affording the relief which he possessed, and which a more thorough statement would conduce. He has given *ninety-nine* facts which appeared favorable to his position without adding the *one-hundredth* which would overthrow them all. He has taken the iron from the track and allowed it to lay upon the ground as waste, while he substituted the new material without deducting or allowing the *eighty-five per cent.* which in almost all sections of the country will be given by our manufacturers.

Such is a fair review of the mode of reasoning which Mr. Ellet has resorted to. I have been induced to offer it for the consideration of railroad companies and the public at large—more with a view of enabling them to arrive at fair conclusions than of exposing the sophistries of the writer with whom I have the honor to differ.

Sept. 18th 1845. R. of Delaware.

Danville and Pottsville Railroad.

We are pleased to learn that there is a growing determination to construct a railroad between these two important points.—The Miners, Pottsville Journal, says that "a meeting was held in Danville on Tuesday, 9th inst. to take into consideration the best means of promoting the construction of a railroad to connect Danville with Pottsville and Philadelphia."

We hope they will do more than to meet and *resolve*. Now is the time to move in the matter, and if the people can be made to see their *true* interest, the road will be built.

"Samuel R. Wood was appointed president, Alexander Montgomery, John C. Boyd, Peter Baldy, George A. Frick, Henry Brevoort, Dr. William H. Magill, Eli Trego and William Donaldson, were appointedd vice Presidents, and Edward H. Baldy and Andrew F. Russel, secretaries of the meeting.

We regret that want of room compels us to give only a condensed account of the proceedings. A committee of seven was appointed to draft resolutions expressing the sense of the meeting, who in the preamble setting forth the advantages of the proposed road, say that it "will effect an union between the iron region of Columbia county and the coal basin of Shamokin and Mahony; it will also connect the town of Danville and its great iron interests, with the coal fields of Schuylkill and the interests of our metropolis."

Several resolutions were passed, of which we think the following two will most interest our readers.

Resolved, That this meeting view the subject of a transit communication by railroad between the termination of the proposed Danville railroad and the town of Pottsville, as one involving consequences and results of immeasurable magnitude to the interests of the citizens of the two towns respectively and Philadelphia, and that measures ought forthwith to be entered upon to secure a co-operation with the Philadelphia, Reading and Pottsville railroad company, who will doubtless experience on a just representation of facts involved, an interest in the completion of this great work commensurate with that which we ourselves feel.

Resolved, That this meeting recommend that a convention of the citizens of Philadelphia, Pottsville, Reading an the north-western counties, be called to meet in the town of Danville, on *Wednesday* the 29th day of *October*, A. D. 1845, for the purpose of consulting and adopting such measures as may be best calculated to secure a line of communication by railroad between the city of Philadelphia and the waters of lake Erie."

Cheshire, or Keene, N. H., Railroad.

We find the following letter from Thomas M. Edwards Esq., the president of the company, in the Bunker Hill Aurora of 20th September.

It reminds us forcibly of the remarks made by him at the Boston railroad convention, in September 1844—when it was determined by the convention, after a long discussion, to proceed in the appointment of a committee to obtain subscriptions for the road from Fitchburgh to Brattleboro, viz—that "by the time you are ready to run your cars from Fitchburgh by the way of Brattleboro to Bellows Falls, we will be ready to run our cars between the same points *by the way of Keene*, over an equally good route, and 27 miles (if we recollect right,) shorter." If the following is to be taken as a fair sample of their operations, we shall begin to think that Mr. Edward's assurances will be found correct. We shall at least keep our eye upon his operations—and will just intimate to him that, by sending early notice of their lettings to the Journal, their works may go on, both more economically and more rapidly. Try it gentlemen.

"For the information of those interested in the Cheshire railroad, I wish to say, through the medium of your paper, that the *letting* of the first division of the road, extending from the state line of Massachusetts to Keene, which was closed this day, was fully attended by experienced and responsible contractors; that all the work on the division, necessary to fit the road for the superstructure, has been taken, at prices satisfactory to both the parties concerned; and that the grading will be commenced immediately, and pushed forward, without any avoidable delay, to completion.

Allow me, further, to say, that the location of the road, beyond this place, as far as Bellows Falls, is nearly finished; that proposals will soon be invited, for grading the second division of the road; and that the letting is expected to take place early in October, so that those portions of it requiring most time will be in progress through the winter.

Without any disposition to enter the lists of railroad controversy, but simply to discredit certain idle rumors which have been put in circulation, I will add that no part of our road, when completed, will be embellished by a "tunnel," or made interesting by "eighty feet" grades; that only at a single point will there be any grade as high as sixty feet; and that it has been ascertained that at that point there need be none higher.

As the *smoke*, which has been raised by conflicting interests, clears away, as is now taking place, the merits of this route will again stand out as they originally appeared. To any one, acquainted with the country on the line of the road and above, and conversant with the course of business for the last thirty years, it is known that it lies in the *very bed* of a channel of business and travel, which must necessarily make it a great thoroughfare, through all coming time, for the use of a considerable portion of New Hampshire and a large portion of Vermont, to say nothing of sections more remote; and that it is as certain as anything in the future, that it will afford ample remuneration for capital invested, at the same time that it will furnish an invaluable accommodation to the country it traverses.

Thomas M. Edwards.

Completion of the Georgia Railroad.—It is a source of unfeigned pleasure to us to announce that a train of passenger cars departs this morning for Atlanta, the termiuus of the Georgia railroad. We congratulate the stockholders, and all parties interested, upon this important result, achieved through numerous difficulties and under circumstances, at times, during its progress, peculiarly trying. But they have triumphed over every obstacle, and now we trust will begin to reap the reward of their labors, and their capital, which has been so liberally and freely expended.—Where all have manifested so much zeal, energy and indomitable perseverance in the attainment of a great work, it might be invidious to distinguish, yet we cannot omit the opportunity to do simple and even handed justice to the president, John P. King, and the able and efficient corps of engineer's, whose energies have known no flagging during the progress of the work.

We have now a railroad, not inferior to any in the Southern states, extending 172 miles into the interior of the state, which will in a few months be extended eighty miles farther to the Oostenaula river, making an entire line ot two hundred and fifty-two miles of the great line of railroad which is designed to connect the Atlantic coast with the fertile valley of the Mississippi.

As we have much more to say in reference to the extension of this grand work, we defer for the present any farther remarks.

The government has appointed Mr. Farraday and Professor Playfair says the Railway Express, to ascertain how far it is possible to consume the smoke from steam engine chimneys.

TRAVELLERS' RAILROAD AND STEAM NAVIGATION GUIDE, ON THE CONTINENT.

List of Railroads Now Open on the Continent, and the Fares.

The Fares are in the Coins of each Country, and reduced into English Currency: th. thalers and silbgros; g. guilders, kreutzers and cents; fr. francs and centimes.

FROM	MILES	DESTINATION.	FIRST CLASS.			SECOND CLASS.		
				s.	D.		s.	D.
Aix-la-Chapelle	43	Cologne .....th.	2	..	6 0	1	15	4 6
Amsterdam....	25	Utrecht .....g.	1	80	3 0	1	40	2 4
Amsterdam....	..	Arnhem	..	..	....	..	..	....
Antwerp	28	Brussels .....fr.	3	25	2 7	2	50	2 0
Antwerp	150	Cologne .....fr.	21	..	16 10	16	..	12 10
Antwerp	96	Lille	..	..	....	..	..	....
Antwerp	107	Aix-la-Chapelle.fr.	13	50	10 10	10	50	8 5
Augsburg	39	Munich .....g.	3	..	6 0	2	12	4 5
Basel	86	Strasburg.....fr.	13	95	11 2	10	60	8 6
Berlin	200	Dresden	..	..	....	..	..	....
Berlin	53	Frankfort on O.th.	2	10	7 0	1	15	4 6
Berlin	140	Leipzig .....th.	5	15	16 6	3	20	11 0
Berlin	128	Magdeburg ....th.	4	20	14 0	3	5	9 6
Berlin	18	Potsdam .....th.	..	20	2 0	..	15	1 6
Berlin	90	Stettin	..	..	....	..	..	....
Bonn.....	16	Cologne .....th.	..	15	1 6	..	10	1 0
Breslau	53	Oppeln.....th.	2	16	7 8	1	18	4 10
Brunswick	44	Hanover .....th.	..	20	2 0	..	18	1 10
Brussels	142	Cologne .....fr.	20	50	16 5	15	50	12 5
Brussels	59	Valenciennes ...fr.	6	..	4 10	4	75	3 10
Budweis	64	Lintz .....g.	3	..	5 0	2	..	3 4
Carlsruhe	21	Baden .....g.	1	30	2 6	1	..	1 8
Carlsruhe	48	Offenbourg .....g.	3	18	5 6	2	12	3 8
Dresden.....	60	Leipzig .....th.	2	8	6 10	1	8	3 10
Dresden.....	134	Magdeburg	..	..	....	..	..	....
Dusseldorf.....	18	Elberfeld .....th.	..	25	2 6	..	18	1 10
Frankfort O.M.	21	Mainz .....g.	2	6	3 6	1	27	2 5
Frankfort O.M.	26	Wiesbaden .....g.	2	42	4 6	1	48	3 0
Hague.....	47	Amsterdam .....g.	3	65	6 1	2	45	4 1
Hiedelberg	14	Mannheim .....g.	..	51	1 5	..	30	0 10
Leipzig.....	33	Altenburg .....th.	1	12	4 3	..	26	2 8
Mannheim.....	73	Baden .....g.	5	6	8 7	3	30	5 10
Mannheim.....	52	Carlsruhe .....g.	3	18	5 6	2	12	3 8
Mannheim.....	93	Kehl .....g.	6	45	11 3	4	30	7 6
Mannheim.....	100	Offenbourg .....g.	6	33	10 11	4	24	7 4
Ostend.....	92	Antwerp .....fr.	9	25	7 5	7	..	5 7
Ostend.....	89	Brussels .....fr.	9	25	7 5	7	..	5 7
Ostend.....	169	Aix-la-Chapelle.fr.	19	50	15 7	15	25	12 2
Ostend.....	212	Cologne .....fr.	27	..	21 7	20	75	16 7
Paris	18	Corbeil .....fr.	3	..	2 5	2	40	1 11
Paris	75	Orleans .....fr.	15	..	12 0	12	60	10 1
Paris	84	Rouen .....fr.	16	..	12 10	13	..	10 6
Paris	5	St. Cloud .....fr.	..	80	0 8	..	60	0 6
Paris	12	St. Germain....fr.	2	..	1 7	1	50	1 3
Paris	12	Versailles .....fr.	2	..	1 7	1	50	1 3
Rouen	84	Paris .....fr.	16	..	12 10	13	..	10 6
Vienna	40	Glognitz.....g.	3	29	6 8	2	30	5 0
Vienna	120	Gratz	..	..	....	..	..	....
Vienna	132	Ollmutz .....g.	11	12	23 5	7	..	14 0

An Alphabetical list of the Distances, in English miles, of the Principal Towns from London, to which are added, those between some of the Continental Towns.

Abbeville	190	Frankfort O.M	544	Moscow	1396
Aix-la-Chapelle	330	Frieburg	739	Naples	1450
Amsterdam	248	Gand	177	Neurenburg, from	
Arnhem	270	Geneva	1080	Frankfort O.M...	196
Baden-Baden	650	Gratz, fm. Vienna...	120	Neurenbg, f. Leipzig	159
Basel	780	Hague	212	Offenburg	698
Berlin	644	Havre, by Brighton.	137	Prague, fm. Vienna.	196
Berlin fm. Hamburg	175	" by Southampton	198	Prague, fm. Frankfort O.M	290
Bern	830	Heidelberg	589	Prague, fm. Dresden.	94
Bieberich	510	Kehl	684	Paris, by Brighton..	241
Bonn	420	Leghorn	1240	Paris, by Southamp.	340
Bordeaux, fm. Paris.	346	Leipzig, fm. Frankfort O.M	210	Rome	1380
Breslau, fm. Berlin..	202	Liege	200	Rouen, by Southamp.	256
Breslau, fm. Dresden	154	Lyons, fm. Paris....	290	Stuttgardt	678
Brussels	250	Mainz	517	Schaffhausen	790
Carlsrhue	625	Mannheim	571	St.Petersbg, f. Berlin.	1060
Caub	485	Milan	942	Strasbourg, fm. Paris	285
Coblenz	458	Milan, fm. Venice..	200	Trieste, fm. Venice..	319
Cologne	400	Magdebrg f. Hambg.	157	Constance	230
Dijon, fm. Paris....	318	Magdeburg f. Leipzg.	74	Utretcht	
Dresden, fm. Prague.	94	Magdebg. f. Dresden.	134	Vienna, from Frankfort O.m	437
Dusseldorf	368	Marseilles, fm. Paris	500	Vienna fm. Trieste..	319
Elberfeld	388	Munich, fm. Frankfort, O.M	214	Venice, fm. Milan..	200
Emmerich	300	Munich, fm. Vienna.	276	Wiesbaden	520
Florence	1160			Zurich	830

The direct Fares from London are at the following reduced rates.

From LONDON. To the following places.	Via ROTTERDAM. Out, or Single Journey. Chief cabin	Via ROTTERDAM. Out, or Single Journey. Fore cabin	Via ANTWERP & from COLOGNE. Out, or Single Journey, Exclusive of Railroad Fares. Chief cabin	Via OSTEND and from COLOGNE. Out, or Single Journey, Exclusive of Railroad Fares. Chief cabin	Via OSTEND and from COLOGNE. Out, or Single Journey, Exclusive of Railroad Fares. Fore cabin
	£ s. D.	£ s. D.	£ s. D.	£ s. D.	£ s. D.
Dusseldorf	2 16 6	1 18 11	.....	.....	.....
Cologne...	2 18 6	1 19 10	.....	.....	.....
Bonn.....	2 19 9	2 0 6	2 3 3	1 13 3	1 11 5	1 5 8
Neuweid.	3 3 11	2 2 4	2 8 1	1 15 2	1 16 2	1 7 6
Coblence.	3 4 11	2 2 10	2 9 0	1 15 6	1 17 0	1 8 0
Bingen...	3 10 1	2 5 2	2 13 9	1 17 9	2 1 9	1 10 3
Bieberich.	3 11 1	2 5 9	2 15 3	1 18 5	2 3 2	1 10 11
Wiesbaden	3 11 9	2 6 4	2 16 0	1 19 0	2 3 9	1 11 6
Mayence.	3 11 4	2 5 10	2 15 5	1 18 6	2 3 5	1 11 0
Mannheim	3 15 6	2 8 8	2 19 6	2 1 4	2 7 6	1 13 10

Children under 10 years of age, half price; for dogs, half the price of fore cabin is charged; on carriages, and horses booked in London direct for the Rhine, a considerable reduction is also made.

Agents--General Steam Navigation Company.

Rotterdam, W. Smith, and Mr. P. A. Van Es.
Cologne, J. Simonis.
Aix-la-Chapelle, J. A. Mayer.
Spa, Dommartin.
Antwerp, C. Brequigny.
Ostend, St. Amour.
Gand, I. Van Aken.
Brussels, W. Middleton.
Paris, F. Spiers.
Havre, P. Albrecht.
Rouen, Company's Office.
Dieppe, D. L. Chapman.
Boulogne, W. Hughes, Dellatre.
Calais, A. Spiers.
Hamburg, G. Delaval.

PASSENGER LINES FOR THE NORTH AND WEST.

Morning Line, at 7 o'clock—For Albany, Troy, and intermediate landings.—The steamboat Troy, Capt. A. Gorham, will leave New York, foot of Barclay street, at 7 o'clock, A.M., every Tuesday, Thursday, and Saturday. The steamboat Niagara, Capt. DeGroot, leaves New York at 7 o'clock, A.M. Monday, Wednesday, and Friday. 31

Afternoon, or 5 and 7 o'clock Line.—At 5 o'clock, P.M., landing at intermediate places, from the foot of Barclay street.—The steamboat New Jersey, Capt. H. H. Fury, will leave on Monday, Wednesday, Friday, and Sunday. The steamboat South America, Capt. M. H. Truesdell, will leave on Tuesday, Thursday, and Saturday. For passsage or freight apply on board, or to

P. C. SCHULTZ,

Paterson Railroad. Leave New York, 9½ A.M., 12½, 5½ P.M. Leave Paterson, 8, 11½, A.M., 4 P.M. On Sundays, leave New York 9½ A.M., 5½ P.M. Leave Paterson, 8½ A.M., 4½ P.M. Passengers are advised to be at the ferry a few minutes before the stated hours of departure. Office 75 Courtland street. 31

New Jersey Railroad and Transportation Company. — For Newark. Fare 25 cents. Leave New York at 8, 9, and 11 o'clock A.M., and 12½, 2, 3, 4½, 6½, and 8 o'clock P.M. Leave Newark at 7, 7½, 8, 9, 10½, A.M., and 1½, 4, 5½, 7½, 9½, P.M. On Sundays, leave New York at 9 A.M., and 4½ P.M. Leave Newark at 11½ A.M., and 9½ P.M.

For Elizabethtown. Fare 31½ cents. Leave New York at 9 A.M., 12½, 2, 4½, 6½ P.M. Leave Elizabethtown at 7, 7½, 8, 10½ A.M., 3½, 6½, 9½, P.M.

For Rahway. Fare 31½ cents. Leave New York at 9 A.M., 12½, 2, 4½, 6½ P.M. Leave Rahway at 5½, 7½, 7½, 11½, A.M., 3, 6½, 9, P.M.

For New Brunswick. Fare 50 cents. Leave New York at 9 A.M., 4, 4½ P.M. Leave New Brunswick at 5½, 7½, 11, A.M., 8½, P.M. On Sundays, leave New York at 9 A.M., and 4½ P.M. Leave New Brunswick at 12 M., and 8½ P.M.

The commutation fare between New York and New Brunswick and intermediate places, including the ferry, $65 per annum. 31

For Reading and Pottsville. By Reading Railroad. Daily, Sundays excepted, from the Depot, corner of Broad and Cherry streets at 8 a.m. Fare, $3 50. Second class, $3. To Reading $2 25. Second class $1 90. 31

Long Island Railroad Company.—Trains run from Brooklyn depot.—Boston train, 8½, a.m., daily, stopping at Farmingdale and St. George's Manor; accommodation train, 9½, a.m., and 5 p.m., for Farmingdale and intermediate places, daily; accommodation train, 3, p.m., for Greenport, daily, stopping at Jamaica, Branch, Hempstead, and Hicksville, and all the stopping places between Hicksville and Greenport. From Greenport depot: Boston train, daily, at 12½ o'clock, m., or on the arrival of steamers from Norwich. Accommodation train at 5, a.m., daily, for Brooklyn and intermediate places. From Farmingdale depot: Accommodation train at 6½, a.m., and 2½, p.m., daily, for Brooklyn and intermediate places.

The steamboat Statesman leaves Greenport for Sag Harbor twice each day, on arrival of the trains from Brooklyn.

Baggage crates will be in readiness, at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side. 31

For Newport and Providence, on Monday, Wednesday, and Friday. This line leaves at 8 o'clock, in the morning, from the foot of Whitehall street, South ferry. 31

BOSTON COURIER, DAILY, SEMI-Weekly and Weekly.

The *Daily* edition of the Courier, presents to merchants and others, an extensive medium of advertising. The circulation of the *Semi-Weekly* Courier (pubiished on Mondays and Thursdays) is believed to be more extensive than that of any other similar Boston Newspaper. This publication embraces all the reading matter of the Daily, the Foreign and Domestic Markets, Review of the Boston Market, Prices current, and Ship News, prepared with great accuracy. The *Weekly* Courier contains as much of the matter of the daily as can be crowded into a sheet of the same size, without ship news, prices current or advertisements.

Our extions to obtain and publish authentic information on all topics proper for the columns of a newspaper,—the state of trade, the prices of merchandize, the current news of the day, and the political movements in the various sections of the country—will not be abated. The marine department of the Courier has been inferior to none in copiousness or accuracy of detail, and it will be our endeavor to maintain its reputation in this respect.

TERMS OF SUBSCRIPTION.

For the Daily Courier, for one year, in advdnce $8,00
For the Semi-Weekly Courier, for one year.. 4,00
For the Weekly Courier, for one year..... 2,00

JOSEPH T. BUCKINGHAM.
EBEN B. FOSTER.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
j5a3 Albany Iron and Nail Works, Troy, N. Y.

TO IRON MANUFACTURERS. THE SUBscribers, as Agents of Mr. George Crane, of Wales, having obtained a patent in the United States for his process of smelting Iron Ore with Anthracite coal, and holding an assignment of the patent obtained by the late Rev. F. W. Geissenhainer, are prepared to grant licenses for the manufacture of Iron according to Mr. Crane's principle.

A. & G. RALSTON & CO.,
ja45 No. 4 Sout Fronth st., Philadelphia, Pa.

MACHINE WORKS OF ROGERS, KETCHum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works beingexten sive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

FOR SALE, AT A SACRIFICE—A LOCOmotive Engine, 4 wheels and Tender. Cylinders 10 in. dia., Stroke 16 in., Cylinders inside of smoke box. Weight of engine, with wood and water, about 9 tons. This engine and tender are new, and of the best materials and workmanship. If required, would be altered to a 6 wheeled engine.

Also, 1 20-horse High Pressure Steam Engine,
2 8-horse " " "
1 Upright Hydraulic Press.

All of which will be sold low, on application to

T. W. & R. C. SMITH.
Founders and Machinists,
May 12tf Alexandria, D. C.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.

G. A. NICOLLS,
ja45 *Reading, Pa.*

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1¼ in. to 2½ in thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descripio ns.t

ja451y

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,
ja45 N. E. cor. 12th and Market sts., Philad., Pa.

FROM NEW YORK.

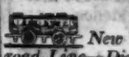
New York and Harlem Railroad Company.

Leave City Hall for Yorkville, Harlem and Morrisiania at 5.30, 7, 8, 9, 10, a.m.; 1, 2, 3, 3.30, 4, 5, 5.30, 6, p.m. For Fordham and Williams' Bridge at 5.30, 7, 10, a.m.; 2, 3.30, 5, 6, p.m. For White Plains at 7 and 10 a.m.; 2 and 5 p.m. Leave Morrisiania and Harlem for City Hall at 6.20, 8, 9, 10, 11, a.m.; 2, 3, 4, 2, 5.20, 6, 6.30, 7.45 p.m. Williams' Bridge for City Hall at 7, 7.40, 10.40 a.m.; 2.40, 5, 5.40, 7.20 p.m. White Plains for City Hall at 7.10 and 40.10 a.m.; 2.10 and 5.10 p.m. 31

Evening, or 6 o'clock Line.—Line steamboats for Albany—Daily, Sundays excepted—Through direct at 7 o'clock P.M. from pier between Courtlandt and Liberty streets.—Steamboat Rochester, Capt. R. G. Crittenden, will leave on Monday, Wednesday, and Friday. Steamboat Knickerbocker, Captain A. Houghton, will leave on Tuesday, Thursday, and Saturday. 31

For Albany and Troy, direct, at 6 o'clock, P.M., from the steamboat pier, foot of Courtlandt street. The Empire, Capt. R. B. Macy, Tuesday, Thursday and Saturday. The Columbia, Capt. Wm. H. Peck, Monday, Wednesday, and Friday. 31

PASSENGER LINES, SOUTH AND SOUTHWEST.



New York and Philadelphia Railroad Line—Direct. Leaves New York daily, from the foot of Liberty street. Morning Line, 9 o'clock, A.M. Mail Pilot Line, 4½ o'clock, P.M. Fare in first class cars, $4. Second class cars, $3.

Passengers will procure their tickets at the office foot of Liberty street. Philadelphia Baggage Crates are conveyed from city to city without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for the Ladies' use. 31

Camden and Amboy Railroad Line.—For Philadelphia and intermediate places. Leaves Pier No. 2, North River, foot of Battery Place, by Steamboat to South Amboy, daily, Sundays excepted, at 5½ o'clock A.M. Passengers will take the cars at South amboy. Fare to Philadelphia, $3. Forward deck passengers, $2 25. To Freehold and Monmouth, via. stages from Hightstown, $1 50. To Spotswood and West 75 cents. To South Amboy, 25 cents. To Perth Amboy, Tattens, Rossville and Tuffts, 12½ cents.

The steamboat Independence will land at each of the above named places going and returning, leaving Perth Amboy at 5 o'clock P.M. 31

Susquehanna Line of Railroad Cars and Post Coaches.

This line leaves the depot, corner of Broad and Cherry streets, daily, [Sundays excepted] at 8 o'clock, a.m., via Reading and Pottsville railroad, for Sunbury, Danville, Cattawissa, Northumberland, Milton, Muncy, Williamsport, Towanda, Bellefonte, Jersey Shore, Lockhaven, Ralston and Elmira. For seats apply at the stage office, 104 Race street, ur der the White Swan Hotel.

34 S. STILES, Agent.

SUMMER ARRANGEMENT—FARE REDUCED.

By the Great Southern Mail Line, via Washington City, and the only line that now issues through tickets south, to Weldon and Charleston, S. C., whereby the traveller gains 24 hours in advance of those who take the Bay route. This is the only line that carries the great southern mail to Richmond, Petersburgh, Weldon, and Charleston, S. C.

Direct to New Orleans, and at the following reduced rates of fare, viz: Through tickets from Baltimore to Charleston, $21: whereby the traveller saves $4 25. Bear in mind that this is the great *Southern Mail Line*, and the only *one that issues a through ticket South*. Those who patronize it will save their money and time. *Through Tickets* from Baltimore to Charleston $21; Baltimore to Weldon $10; Baltimore to Petersburg $7 50; Baltimore to Richmond $7.

Fast Mail Line.—Leave New York at 9 a.m. and arrive in Philadelphia at 3½ p.m.; arrive in Baltimore at 11 p.m.; arrive in Washington at 3 a.m.; arrive in Fredericksburg at 9 a.m.; arrive in Richmond, Va., at 12½ to 1 p.m.; arrive in Petersburgh, Va., at 3 p.m.; arrive in Weldon, N. C., at 10 p.m.; arrive in Wilmington, N. C., at 12 m.; arrive in Charleston, S. C.. at 6 a.m.

Passengers by the above line will arrive at Richmond by 11½ o'clock p.m. and Petersburg, Va. by 2½ o'clock p.m., through to the former city in *twelve hours*, and to the latter in fourteen and a half hours, (*and in eight hours less time than by the Bay route*,) and to Charleston, S. C., in fifty-one to fifty-two hours after leaving Baltimore, and do not incur the risk of any detention at intermediate points as those do who take the Bay route.

Way Mail Schedule.—Leave New York at 5 o'clock p.m. and arrive in Philadelphia at 10 p. m.; arrive in Baltimore at 2½ p.m.; arrive in Washington at 7 p.m. *From Philadelphia by steamboat.*—Leave Philadelphia at 6 a.m. and arrive in Baltimore at 1 p.m.; leave Baltimore at 5 p.m. and arrive in Washington at 7 p.m.

For further information and *through tickets* apply at the Southern office, adjoining the Washington railroad ticket office, Pratt street, Baltimore.

31 STOCKTON & FALLS.

LONG ISLAND RAILROAD.—EVENING Line for Newport and Providence. Fare 50 cents.

Every Tuesday, Thursday and Saturday, from the foot of Whitehall street, at 4½ o'clock and from Brooklyn depot at 5, p.m.

On the arrival of the train at Greenport, passengers will proceed immediately in the steamer "New Haven," direct. 2t 39

BOSTON AND PROVIDENCE RAILROAD. Dedham Branch Railroad. Stoughton Branch Railroad.

Fall arrangement, to commence Monday, September 29, 1845.

Steamboat train for New York via Stonington, leaves Boston at 4½ p.m.

Accommodation trains, leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8 a.m. and 3½ p.m.

Fare in first class cars, $1 25
" second " 85

Dedham trains, leave Boston at 9 a.m. 3 p.m., and 6 p.m. Leave Dedham at 7½ a.m., 10½ a.m. and 4½ p.m.

Fare 25 cents.

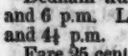
Stoughton trains, leave Boston at 12 m. and 4 p.m. Leave Stoughton at 8 a.m. and 2½ p.m.

Fare 50 cents.

W. RAYMOND LEE, *Sup't.*

Sept. 15, 1845. 31 1y

NEW YORK AND ERIE RAILROAD LINE. For Middletown, Goshen, and intermediate places. Two daily lines each way, as follows:



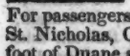
For passengers, the new, and commodious steamboat St. Nicholas, Capt. Alex. H. Shultz, will leave the foot of Duane street daily, [Sundays excepted,] at 7½ o'clock, A.M., and 5 o'clock, P.M., through in five hours. Returning, the cars will leave Middletown at 6, A.M., and 4½, P.M. For further particulars inquire of J. Van Rensselaer, Agent, corner of Duane and West streets,

H. C. SEYMOUR, Superintendant.

Stages run from Middletown daily, in connection with the afternoon line, to Bloomingburg, Wurtsboro, Monticello, Mt. Pleasant, Binghampton, Owego, Port Jervis, Honesdale Carbondale, etc.

On Monday, Wednesday, and Friday, to Dundaff, Montrose, Friendsville, Lenox, Brooklyn, etc., etc. 31 1y

BALTIMORE AND SUSQUEHANNA Railroad. The Passenger train runs daily except Sunday, as follows:



Leaves Baltimore at 9 a.m., and arrives at 6½ p.m. Arrives at York at 12½ p.m., and leaves for Columbia at 1½ p.m. Leaves Columbia at 2 p.m., and leaves York for Baltimore at 3 p.m. Fare to York $2. Wrightsville $2 50, and Columbia $3 62½. The train connects at York with stages for Harrisburg, Gettysburg, Chambersburg, Pittsburg and York Springs.

Fare to Pittsburg. The company is authorized by the proprietors of Passenger lines on the Pennsylvania improvements, to receive the fare for the whole distance from Baltimore to Pittsburg. Baltimore to Pittsburg.—Fare through, $9 and $10.

Afternoon train. This train leaves the ticket office daily, Sundays excepted, at 3½ p.m. for Cockeysville, Parkton, Green Springs, Owings' Miils, etc.

Returning, leaves Parkton at 6 and Cockeysville and Owings' Mills at 7, arriving in Baltimore at 9 o'clock a.m.

Tickets for the round trip to and from any point can be procured from the agents at the ticket offices or from the conductors in the cars. The fare when tickets are thus procured, will be 25 per cent. less, and the tickets will be good for the same and following day in any passenger train.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

DAVIS, BROOKS & Co., 30 WALL ST. Have now on hand and for sale,

200 tons 2½ x ½ inch Flat punched Rails, Bars 18 feet each.

100 tons Heavy Edge Rails, 90 tons per mile.

30 tons 2½ x ½ inch Flat Rails.

ALSO—A STEAM PILE DRIVER, built by "Dunham & Co." which has never been used, and cost originally $5000. s20 2m

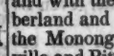
BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13 1y

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—



On weight goods generally...	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil).....	$1 50 per barrel.
On brls. dry (except lime)...	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery.....	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....	$5 00 per hhd.
On molasses and oil.....	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

40 Gen'l. Sup't. Transportation.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above.

35 1y

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr.
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co.
Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark, N. J.
Gardiner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly. 35 1y

RAILROAD IRON AND FIXTURES. The Subscribers are ready to execute orders for the above, or to contract therefor, at a fixed price, delivered in the United States.

DAVIS, BROOKS & CO.,

ja45 30 Wall st., N. York.

OFFICE OF THE NEW YORK AND Erie Railroad Company. *No. 60 Wall st. New York.* September 13, 1845.

Notice is hereby given to the holders of stock of the New York and Erie Railroad company, that by the terms of the 8th section of the Act of the 14th May, 1845, it is provided that, if within 6 years from the passage of the law the company shall complete a single track from the Hudson river to lake Erie and a branch to Newburgh, in Orange county, then "the said company shall be released from all liabil-"ity to pay to the state any demand which the state "may have against them, with this exception only, "that in case any holder or holders of the capital "stock of said company heretofore issued and certi-"fied, or purporting to be paid in full, shall not with-"in six months from the passage of this act, surren-"der to the company their stock certificates, and re-"ceive or offer to receive therefor, for every two "shares of stock heretofore issued, one share of stock "to be hereafter issued, then all such stock heretofore "issued, and not so surrendered, shall not be subject "to the provisions of this law; but the state shall re-"tain the right to claim upon such outstanding stock, "and the said company shall pay into the treasury of "the state, upon the order of the comptroller, any and "all dividends upon such outstanding stock, and the "comptroller shall apply the same to the credit of "said company, until the state shall receive in such "dividends, so much of their said debt of three mil-"ions of dollars and the interest thereon, as would be "the proportion of such outstanding stockholders to "pay, provided the whole debt of three millions of "dollars and interest thereon were collected ratably "from all the stock of said company now outstand-"ing."

By section 9th, of the same law, it is provided that, "it shall be the duty of the president and sec-"retary of said company, within thirty days after the "expiration of the six months mentioned in the last "preceding section, to file with the comptroller of "the state, a statement of all stocks that shall not "have been exchanged in pursuance of the provis-"ions of the last preceding section; and whenever "any dividend upon the stock of the said company "shall be made, it shall be the duty of the board of "directors to notify the comptroller of such dividend, "and upon payment of the dividend aforesaid into "the treasury, the comptroller shall furnish to said "company a receipt for the portion of such dividend "belonging to any stock not surrendered and ex-"changed in pursuance of the last preceding section "of this act, and said company shall surrender to "the holders of such stock the receipt of said comp-"troller in lieu of said dividends."

It will be seen that on or before the 14th of November next, each and every holder of the stock of the company must decide whether he will avail himself of the provisions of this law by surrendering his stock and receiving one share for every two shares thus surrendered. With reference to holders who neglect to avail themselves of the provisions of the act, it is made the duty of the company, within thirty days from the 14th of November, "to file "with the comptroller a statement of all stocks that "shall not have been exchanged" agreeably to the provisions of this act, the dividends on which must be paid into the state treasury, rendering that class of stock practically of no value to the holder. The board of directors consider it their duty to protect the interests of the stockholders by giving all possible publicity to that portion of the law relating to the outstanding stock, that all may have an opportunity for an early compliance with the provisions of the act. By order of the board of directors.

39 8t T. S. BROWN, Acting secretary.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y